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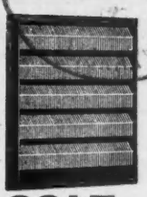

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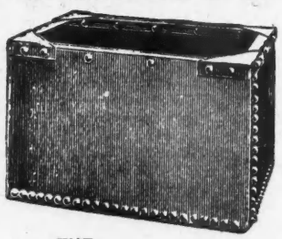

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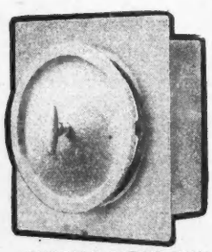

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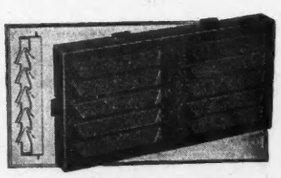

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"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

VOL. CLIX DECEMBER 13 1940 No. 5106

PLANNING UNDER DEMOCRACY

"LIKE a forest fire, the present evil may bring forth greater riches." These words of Mr. D. E. Gibson, architect to the stricken city of Coventry, announcing the chance now presented for creating a "dignified and fitting city centre," have served not only to give the world a fresh glimpse of Britain's unconquerable soul but also to remind a wide public within these shores that, given the will and determination, good may be found in the greatest evil.

"Over a year and a half ago," said Mr. Gibson, "I prepared a civic centre which, grouped round the two noble mediæval churches, embodied all the public buildings in one ordered conception, and at the same time suggested a central park space, which is so badly needed. In one night the site is largely cleared ready for this regeneration. It rests with the fortunes of war and the desires of a great people to see it accomplished."

Mr. Gibson would have given less than a complete picture of the situation had he failed to mention that, when first proposed, the scheme was despaired of by reason of the delays involved by town-planning legislation, high land values and lack of plan for the central area. War in one night cut a Gordian knot which generations of peace had not succeeded in unravelling.

The thoughts which this curious situation gives rise to are far-reaching. Must we admit that, under our present laws and economic system, the sole chance for replanning our cities and bringing order out of muddle would seem to be that they first undergo a savage, brutal mauling such as civic Coventry has received at the hands of the Nazi beast? If it is so—and Mr. Gibson's comments read extremely like it—it is as severe a criticism of our system of life as may be imagined.

If we admit this stricture, it would seem that the high hopes which animate every thoughtful mind must—failing the razing of London and other great cities to the ground—be doomed to disappointment. If, on the other hand, we refuse to contemplate catastrophe such as this, it becomes evident that before the technical work can be done—before the great army of architects, builders and operatives can throw themselves into the task of creating beauty out of ruins—the people of this country must, through Parliament, contemplate radical changes in legislation.

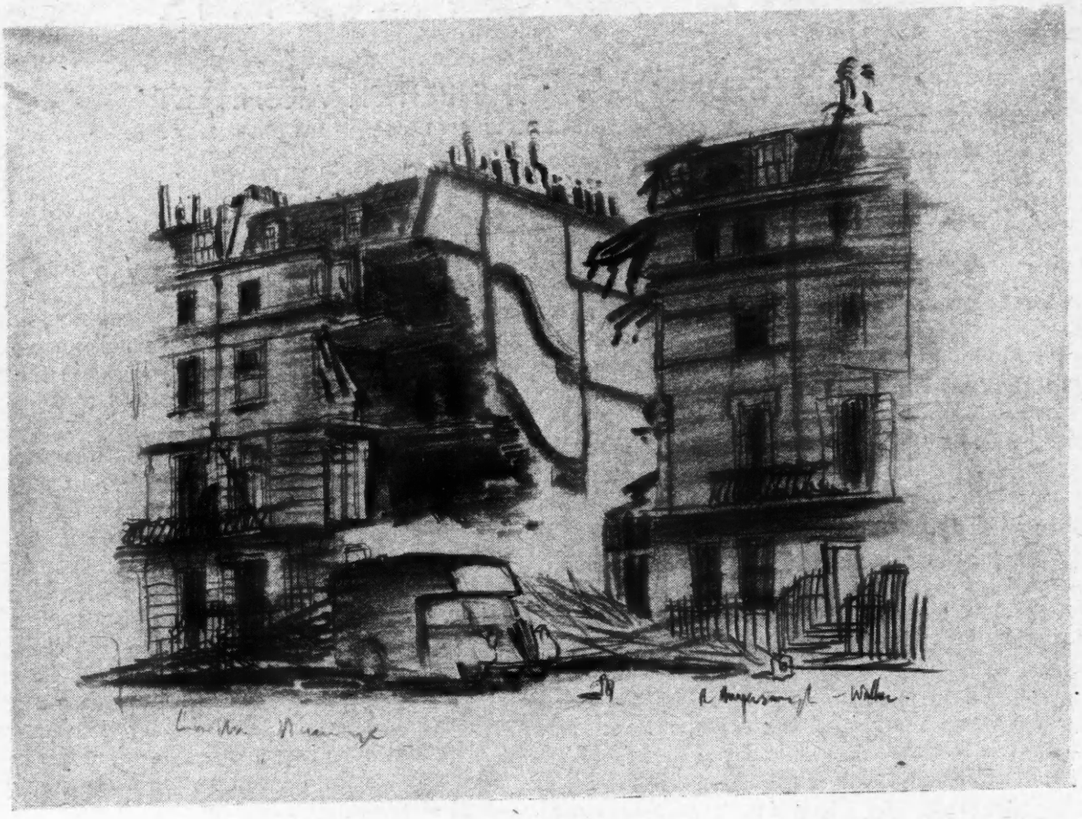
There are several ways in which the public or State ownership which seems essential if large-scale replanning is to be undertaken, may be achieved. Russia has done the trick by wholesale confiscation of land without compensation. This drastic procedure she would appear to have put to good use—a fact which has encouraged among some a spirit of emulation. We need not, however, spare time for consideration of this manner of going to work if it is possible to devise within the democratic framework a way more in accordance with our national outlook.

This problem of compensation is one which has received more attention probably than any other connected with the subject of town and country planning. It is one of the principal items of an extraordinarily far-reaching and significant report issued by the Town Planning Institute, which will be found in summarised form elsewhere in this issue. "Essential planning, and particularly re-planning," states the Report, "cannot be carried out effectively under the existing legislation governing compensation and betterment; nor under any development of a system which involves the separate assessment of compensation and betterment in respect of each individual interest."

While the authors of the Report do not find existing legislation, in general, to be unjust to either private or public interests, "they do find that the multiplicity and variety of interests that have to be taken into account are a permanent and formidable obstacle to the achievement of positive results by statutory planning." Consequently, they suggest that in cases where private ownerships present an obstacle to securing planned development, or conservation on an economical basis, "essential simplification and equity are likely to be best achieved by wholesale purchase of areas by planning authorities."

The Report does not tackle the problem of how the initial sums necessary for this procedure are to be raised, though certain expedients for restricting the amount of compensation for certain classes of property are suggested, as well as compulsory allocation as open space of a proportion of all new land developed. While we believe that good planning is a sound investment, the fact cannot be disguised that in some cases it may be of a long-term character and that, therefore, large sums may have to be sunk in compensation without hope of immediate returns.

This is the nut which must be cracked if planning in Great Britain is to go forward. Can it be done, say, by the issuing of long-term debentures carrying interest, or does it mean the abandonment of our economic system? It *could* be done by a nation prepared to make for a limited period sacrifices to implement peace equal to those cheerfully undertaken to gain victory. Somewhere lies the true answer to all this, and that answer must be found, and found speedily, if the end of the war is to bring Renaissance in its train.



LONDON DAMAGE.

From a Drawing by R. Myerscough-Walker.

NOTES AND NEWS

St. Leonard's Church, Streatham.

ST. LEONARD'S CHURCH, Streatham, was damaged in a recent air raid, when a high-explosive bomb fell in the churchyard. It was at St. Leonard's, which is one of the oldest churches in London, that Dr. Johnson worshipped when he was on his frequent visits to the Thrales. It seems that the chancel, the organ, and the roof have been badly damaged, and only one stained-glass window is intact, but the altar has escaped.

Award of George Cross.

MR. A. D. MERRIMAN has been awarded the George Cross for conspicuous bravery in bomb disposal work. Mr. Merriman was appointed Secretary of the Faculty of Architects and Surveyors in March, 1938. The Faculty recently elected him an Hon. Fellow.

Professor Richardson Honoured by Cambridge.

AT a Congregation of the Senate at Cambridge on December 9, the degree of M.A. *honoris causa* was conferred on Mr. A. E. Richardson, A.R.A., F.S.A., F.R.I.B.A., Honorary Fellow of St. Catharine's College, Professor of Architecture in the University of London.

An Architect's War Escape.

MAJOR F. ARNOLD PERREN, F.R.I.B.A., of Margate, who was called up on the outbreak of war as a member of the Reserve of Officers, has had the unique distinction of being simultaneously reported captured and appointed staff captain. Stationed near the Maginot Line when France collapsed, he managed to evade capture while travelling with three other officers and two of his men to the coast, where they caught the last refugee ship the day before the Germans occupied Bordeaux. Recently promoted major, he is now D.A.Q.M.G. for an area extending over six counties.

Memorial Oak Stalls, York Minster.

THE Deans and Canons of York Minster propose the installation of memorial oak stalls on the north side of the sanctuary. Plans are being prepared by Sir Charles R. Peers, C.B.E., F.R.I.B.A., M.A., Chislehampton House, Stadhampton, Oxford.

A.R.P. Architectural Consultant, Lewisham.

THE Lewisham Borough Engineer has reported the receipt of a communication from the Ministry of Home Security as to the urgent necessity of utilising all the cellar accommodation in the Borough for use as public air-raid shelters. The standard of protection given by such cellar accommodation need not be so high as that originally contemplated and approved by the Ministry, but it is desirable that the available accommodation should be inspected by a competent architect in order to determine whether they were suitable for use as public shelters and the degree of strengthening that would be required. A panel of consultant architects had been formed in conjunction with the Ministry of Home Security, and the Borough Engineer has recommended the appointment of Mr. A. W. Kenyon, F.R.I.B.A., to act on behalf of the Council for the purpose of inspecting the cellar accommodation in the borough on terms agreed with the Ministry. The appointment of the architect referred to has been confirmed.

An Architect's Estate.

MR. EDWIN SHERIDAN GRAY, of Liverpool, who designed many Liverpool cinemas and large Continental cinemas, left estate valued at £60,379 (net personalty £55,073).

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Proposed Garden City, Aylesbury.

THE creation near Aylesbury of a modern garden city, on the lines of Welwyn and Letchworth, is proposed by the National Federation of Housing Societies with the support of the Bucks County Council. An option has already been taken on the Verney Estate at Claydon, ten miles north of the town, though it is not proposed to go on with the scheme till after the war. Details of the scheme are contained in the Planning Committee's report presented to the last meeting of the County Council.

Professional Announcement.

MR. FREDERICK GIBBERD, F.R.I.B.A., A.I.A.A., has changed his address to: Country—Northaw, Herts (Barnet 6041); Town—34, Red Lion-square, W.C.1 (Chancery 8171).

IN 1915.

EXTRACT FROM *The Builder*, DECEMBER 10.

RHEIMS CATHEDRAL: An interesting series of opinions on the subject of Rheims Cathedral is given in the *Strand Magazine* . . . M. Rodin says: "Ignorance is so great everywhere that people think a cathedral can be repaired and restored. If that were true the harm would not be great; we could rebuild cathedrals as we rebuild a battleship. But the sad thing is that no one now knows how to build them."

COMING EVENTS

Friday, December 13.—Architects' Registration Council. Quarterly meeting. 66, Portland-place, W.1.

Tuesday, December 17.—Institution of Civil Engineers. Mr. A. G. Vaughan-Lee on "The Mohammad Aly Barrages." 1.30 p.m.

Saturday and Sunday, December 14 and 15.—Northern Architectural Students' Association. Conference on "Training To-day and the Post-War Architect." The speakers will be Mr. Henry Morris, M.A., (Director, Cambridgeshire Education Committee); Mr. Anthony Cox; Miss Justin Blanco-White, A.R.I.B.A.; Mr. Ralph Tubbs, A.R.I.B.A.; and Miss Judith Ledeboer, A.R.I.B.A. At Hull.

Tuesday, December 17.—Housing Centre. Luncheon. Mr. W. R. Davidge on "The Reconstruction of London." 1 p.m.

Tuesday, December 31.—Housing Centre. Luncheon. Miss Amy Sayle on "Billeting War Workers." 1 p.m.

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

The Use of Architects and the R.I.B.A.

TO THE EDITOR OF *The Builder*.

SIR,—From recent editions of your own and other architectural publications one gathers there is a rising tide of apparently justifiable criticism of the R.I.B.A. on the score of its inability to tackle the big problems affecting the bulk of the profession and the building industry as a whole.

This feeling—which from our own experience is obviously fairly general—should surely be checked at the earliest possible moment by effective constructive action resulting in far more appropriate and valuable use being made of architects in the present (and future!) national effort. This may well seem to be a difficult job and one needing strenuous effort and tenacity of purpose, but it is often pointed out that other bodies—and notably the A.A.S.T.A.—seem to be doing much practical work on but slender resources. However, comparisons are odious!

Might we suggest that there is at least one direction in which a move should be made—that towards re-reservation. It has been reported that some 1,500 skilled building operatives are being released from the Army to help in reconstruction work, and it seems reasonable to assume that a proportion, at least, of skilled "planners" might accompany them. From the lengthy lists that continue to appear in the R.I.B.A. Journal, such men are being tragically wasted as sappers and gunners, yet on the other hand the R.I.B.A. finds it apparently impossible to obtain applicants for its "reconstruction" jobs! Where, then, are those old Fellows who so stoutly fought for *de*-reservation at that open meeting, and are they now satisfied with the fruits of their efforts? We hope the R.I.B.A. will not allow them to be.

FRANK W. ANDREWS, L.R.I.B.A.
F. G. WISCH HUSEN, L.R.I.B.A.

Oxford.

"A New Capital City?"

TO THE EDITOR OF *The Builder*.

SIR,—The article in your issue of November 22 reminds me of a conversation I had with a Zionist whom I met at the Brussels Exhibition in 1935. We were speaking of the effects of the war of 1914-1918, and he—being disappointed with its results—expressed the opinion that we needed another war to put right those matters that the first had left unfinished or in disarray. Why the article reminds me of the conversation is because I find in both an idea that since good undoubtedly comes out of evil, a particular good someone would like to see will come out of the evil the world is now suffering from.

If we consider the matter coolly and without regard to what we should like, we shall all agree that nothing is less likely than that one result of the present war will be that the millions who form the urban agglomeration in and around Greater London will agree to shift their homes, factories, workshops, warehouses, offices, public buildings, and everything else, to some new and more suitable site.

In so far as London is a seaport, it is obvious that it could not be taken to a site in the centre of England. Air transport is growing, and it may be that it will

be the principal means of moving goods and passengers at some time in the future. When that time arrives the question of whether London or some rival city is more favourably situated for aerodromes will be one of great importance, and may lead to a shifting of population; but that time is not yet.

References to Canberra and New Delhi (or for that matter to Washington) are not helpful, because if the Government were to transfer the Houses of Parliament, the Central Law Courts and the great Government Offices to the new capital, it would be, after all, only a small part of the London population that would go. It must not be forgotten that a great deal of work now done in Somerset House and the General Post Office, and nearly all the work now done in the Customs House, would still need to be done in London. Moreover, the Admiralty would not care to be taken any farther from the sea than it is now.

The Goverment could move the Museums and National Picture Galleries, and if it did so London University might possibly follow. I will not discuss the point, because it is when we turn from the Government to think of great commercial enterprises that we see the real impossibility of Mr. Stephen Wilkinson's proposition. What inducement will be offered the banks to move their headquarters to the new capital? In any event, all of them, including the Bank of England, will have to continue important premises in London.

With regard to the railways, they would no doubt improve their communications with the new capital, but it is absurd to suppose they would lay a new system of railways making it the centre. Their head offices would remain in London, though here, I admit, nationalisation might make a difference.

The port and warehouses immediately dependent on the port I have already spoken of. As to the factories in which are carried on London's numerous small manufactures of foodstuffs, clothing, furniture, clocks, watches, gramophones, wireless sets, etc., what inducement will be held out to make them move? Printing is one of London's great industries. It is extremely unlikely that all the great daily newspapers would decide to follow Parliament to its new home. Even if they did, there would still remain a great deal of printing to be done in London.

I could go on at wearisome length, but will only say that what we may reasonably hope for (and should try to get) is that when a considerable number of houses have been thrown down in a narrow city street the opportunity should be taken to widen that street and to rebuild in a modern way. Even this will be difficult, for the natural desire of each proprietor is to get his premises restored as quickly as possible. He does not want to be kept waiting while schemes for a new and improved London are worked out. This was the case in 1666 and is the case to-day.

ALFRED WM. ARNOLD.

Wallington, Surrey.

War Damage to Buildings of Merit.

TO THE EDITOR OF *The Builder*.

SIR,—In the report in *The Builder* of November 22 of the conference on the above at the R.I.B.A., I am reported as advocating that photographs should be of the same scale so that dimensions can be established. What I said, as quoted in "The Times" of November 23, was that if photographers would merely note, when taking photographs, the position of the lens centre in relation to the façade or other object photographed by sufficient horizontal and vertical dimensions, with the focal length of the lens (almost invariably engraved on the brass casing), and ensure that the axis of view is horizontal, a surveyor would subsequently have little or no difficultty in transforming the view into a trigonometrical survey and covering it with figured dimensions, thus saving days or weeks of tedious measuring up, not always easy and frequently not practicable.

The system is fully described in articles in the Journal of the R.I.B.A. of June 17, 1933, and March 24, 1934, since reprinted and published in pamphlet form by Messrs. P. S. King & Son, Great Smith-street, Westminster, under the title of "The Use of Photographs in Town Planning and Design."

Stereoscopic photographs extend the possibilities of photographic surveys, but generally entail special apparatus and special knowledge.

PERCY J. WALDRAM.

Edgware, Middlesex.

District Surveyors' Fees on Air Raid Shelters.

TO THE EDITOR OF *The Builder*.

SIR,—It would appear that under the Civil Defence Act, air-raid shelters in commercial buildings where more than 50 persons are employed are exempted from the payment of District Surveyors' fees, but in the case of a voluntary shelter provided by an employer for his staff numbering less than 50, District Surveyors' fees must be paid.

It is difficult to follow the logic of this, especially as in my experience no exception is ever taken to the provision of these voluntary air-raid shelters, whether they contravene by-laws or not.

PERCY BARTLETT, F.R.I.B.A.

Nottingham.

Building: Its Planned Development.

TO THE EDITOR OF *The Builder*.

SIR,—It is almost useless, I think, to discuss the position of building unless it is viewed from the political as well as the economic or technical standpoint. Recently, Mr. Bevin said: "We are determined to introduce a new economic order. We will never tolerate again the masses of unemployed or the poverty that has hitherto existed. We will not recognise privilege or place, but a juster scheme of things is our main aim." This is the utterance of a Cabinet Minister who has several like-minded colleagues in the Cabinet. It is also the utterance of a man who can lead the forces of labour if anyone can. It is quite clear that these labour leaders were included in the Cabinet because it was realised that they could best solidify and stimulate the workers for the purpose of winning the war. The war has compelled, as it inevitably does, a great increase of State control, which will continue to expand during and after the war.

The formation of the Ministry of Works and Buildings has involved the absorption of the Office of Works and should mean the detachment of some functions such as planning from the Ministry of Health. It would be a great collectivist step.

The first question that one asks is, Why should building come under State control any more than other great industries? Why should this be done, for example, for building and not for engineering? The engineering trades are almost as vital as the building trade. Shelter and food we must have, but the supply services of water, gas and electricity are scarcely less vital.

Many architects are out of employment. The market is always overstocked with them. The first thing to do is to get them employed in some direction; the next to cut off the supply. No professional body has taken a step in this direction. The best co-ordinating step that can be taken is the federation of the whole of the professions for the inauguration of common principles of good government.

Broadly speaking, I am of opinion that the *ad hoc* systems should be dispensed with and that the whole economic system should be examined and overhauled, putting it wholly on a scientific basis. There is a Town Planning Institute which has representatives from the architects, the surveyors, the lawyers and the engineers. This appears eminently reasonable, but it is a private body, whereas the subject should be controlled entirely by the State and dovetailed into the appropriate Department. The resetting of all these bodies—private, *ad hoc* and Government—is demanded, so that unnecessary associations should be amalgamated, and all co-ordinated and federated.

Of this we may be sure—that public Departments will not make use of outside private services. The essential principle is that work controlled by a Department should be done by full-time officials. There can be no compromise between private work and public administration. It must be wholly the one or the other.

Mr. W. H. Ansell's views (your issue of October 25) are a strong indictment of both sides—departmental and private, but a plea of "not guilty" or extenuating circumstances must be entered. Jobs are too big, he says, for many who have undertaken them. Nor have they suitable experience. He suggests co-ordination of small local units. But who is to co-ordinate them? Surely the logic of that view is State control.

Mr. Ansell hankers after individualism, but his arguments are inevitably communal.

A. W. CRAMPTON [F.S.I.].

BOOK REVIEW

Compensation for War Damage. By REGINALD DAVEY, M.Sc., F.S.I. (London: *Estates Gazette*, Ltd.) Price 5s. 3d. post free.

In this little volume is contained the sum of information which an architect or surveyor should know in regard to this important subject. Indeed, it goes beyond, and gives the essence (supported where necessary by verbatim quotations from Acts and Departmental Circulars) of the provisions of the Landlord and Tenant (War Damage) Act, 1939. The subjects of "Urgent Repairs" and "War Risks Insurance" are also referred to in such detail as is necessary to give a comprehensive picture, while in the final chapter is collated the factual matter relating to "Personal Injury." There are useful appendices. This informative book appears before the publication of the Compulsory War Risks Insurance Bill, but the provisions of that Bill will only amplify the volume, not supersede it.

WAR-TIME BUILDING PRACTICE

By R. Cotterell Butler, A.R.I.B.A.

38.—SYNTHETICS FOR THE BUILDING INDUSTRY

PLASTICS.—III

The rate of expansion of the Plastics Industry has been accelerated by the demands made by aircraft and similar war-time industrial developments.

To avoid a slump, the Plastics Industry must maintain its development after the War.

Post-war conditions must mean not only a super-active Building Industry, but one—it is hoped—organised on contemporary lines both technically and administratively.

Will a post-war Building Industry demand a more rapid development of Plastics for building purposes than pre-war?

Can the Plastics Industry—technically and economically—meet important requirements of future building practice?

PARALLEL PRE-WAR AND WAR-TIME DEVELOPMENTS IN THE PLASTICS AND BUILDING INDUSTRIES.

In the two preceding articles of this series an attempt has been made to introduce to the constructor the more important aspects of plastics technology, and to provide a general introductory reference to those materials upon which the development of the industry is based.

The plastics industry as such is of comparatively recent origin and, like its contemporaries, electrical and radio engineering, it has undergone enormous expansion during the past twenty-odd years. In the five years immediately preceding the present war, plastics technologists had devoted considerable attention to the field of development offered by a building industry slowly becoming aware of the potentialities of these new materials. In a desultory fashion it had, it is true, accepted plastics as a creditable and sometimes discreditable substitute for other materials for a considerable period, but in the years 1938 and 1939 a feeling had developed among the more intelligent plastics industrialists that it was perhaps time the attention of architects was drawn to the possibilities of these materials for building purposes over and above their use as substitutes.

It is fairly easy to assess why a field of development in the building industry was not sought earlier. Plastics manufacturers have, in the main, been fully occupied with the development of their industry in fields ready-made for them, and were without the inclination to take on a more difficult market. The interest displayed by many of the more clear-sighted industrialists and a rapidly increasing number of architects just before the war may possibly be accounted for by coinciding factors in both branches of activity. The possibility of the plastics industry reaching a kind of saturation point in fields outside building may have occurred to the plastics manufacturers at the same time that prefabrication and the application of mass-production techniques aroused the interest of builders and architects.

This simultaneous interest in plastics for building on the part of architects and industrialists has been in some ways momentarily arrested by the war. To say, however, that the war has slowed up the development of plastics for building is probably quite wrong.

The plastics industry is in all probability busier to-day than at any other time in its history. This is, of course, due to its importance in the aircraft and other engineering industries directly connected with the war. After the war, this momentum will have to be absorbed, otherwise the plastics and many other co-related industries may experience a disastrous slump. Now the war has not only provided stimuli for the modernisation and reorganisation of building but, in addition, the destruction wrought by the war itself has produced the need for extensive building undertakings. Furthermore, the social re-orientation which is resulting from the present struggle will inevitably create a demand for the sort of building technique which, to be economic, must fully exploit the productive resources of modern manufacturing facilities.

It is logical, therefore, to assume that post-war conditions will demand both a fresh outlet for plastics and ensure that the requirements of building are such that many of them will best be met by an intelligent application of plastics materials.

THE PRACTICAL APPLICATION OF PLASTICS FOR BUILDING.

The present and immediate future applications of plastics for building may be briefly classified as follows: Plastics for structural applications, for use as moisture-resisting elements; for the construction of fittings and equipment; for use as vehicles in paint and varnish manufacture; and as glues, cements, mastics impregnators and binders of various kinds.

Before considering these applications in detail, it is necessary to point out that plastics cements, glues, binders and vehicles are not, of course, plastics in the literal sense of the word. But since these applications involve resinoids which are literally the basis of plastics, their development has gone side by side with the production of plastics mouldings and laminations, and as they are both an important side of the plastics industry and of particular interest to the present subject, they have been included.

STRUCTURAL APPLICATIONS.—In this country, at least, plastics have not as yet been developed for purely structural purposes. There can be no doubt that the greatest single inhibiting factor responsible for this state of affairs is the cost. This has already been discussed in connection with synthetic materials as a whole, and no further reference need be made here except to reiterate the fact that there are no reasons why cost should always be a major difficulty, and to state that an increase in the application of plastics for building will inevitably mean a reduction in their cost.

Apart from the economic factor, certain mechanical properties of the plastics (which might otherwise be suitable for structural purposes) make them somewhat unsuitable.

The *modulus of elasticity* is lower than timber or steel, and although this is not so much that the use of structural members made of plastics is out of the question on these grounds, nevertheless this is definitely a disadvantage. A general-purpose plastic may have a test modulus of, say, approximately three-quarters that of building timber, and a special-purpose plastic (with of course an increased cost) a figure much nearer that of timber of good building quality. Stiffness is not in all cases a necessity and, where all-dry forms of construction are used, a little extra deflection would not be serious provided there were compensating advantages.

The second disadvantage of plastics for structural purposes is that while the *strength/weight* ratio of suitable plastics is thoroughly satisfactory, the *strength/mass* ratio is not so efficient. A relatively large mass for a given strength is not of course a direct disadvantage in many applications, except in so far as mass means bulk of material, and therefore a high *cost/strength* ratio. Again, this disadvantage is being reduced, and when it is borne in mind that plastics are only just being developed for structural purposes and that a synthetic material of this sort may be readily modified by changes in composition, one may expect these difficulties to be overcome in time.

An important advantage of plastics compared with timber is that—being synthetic and of controllable composition—a greater regularity of section may be guaranteed, provided of course that the usual safeguards are employed. This means that the factor of safety may be reduced, with consequent economy.

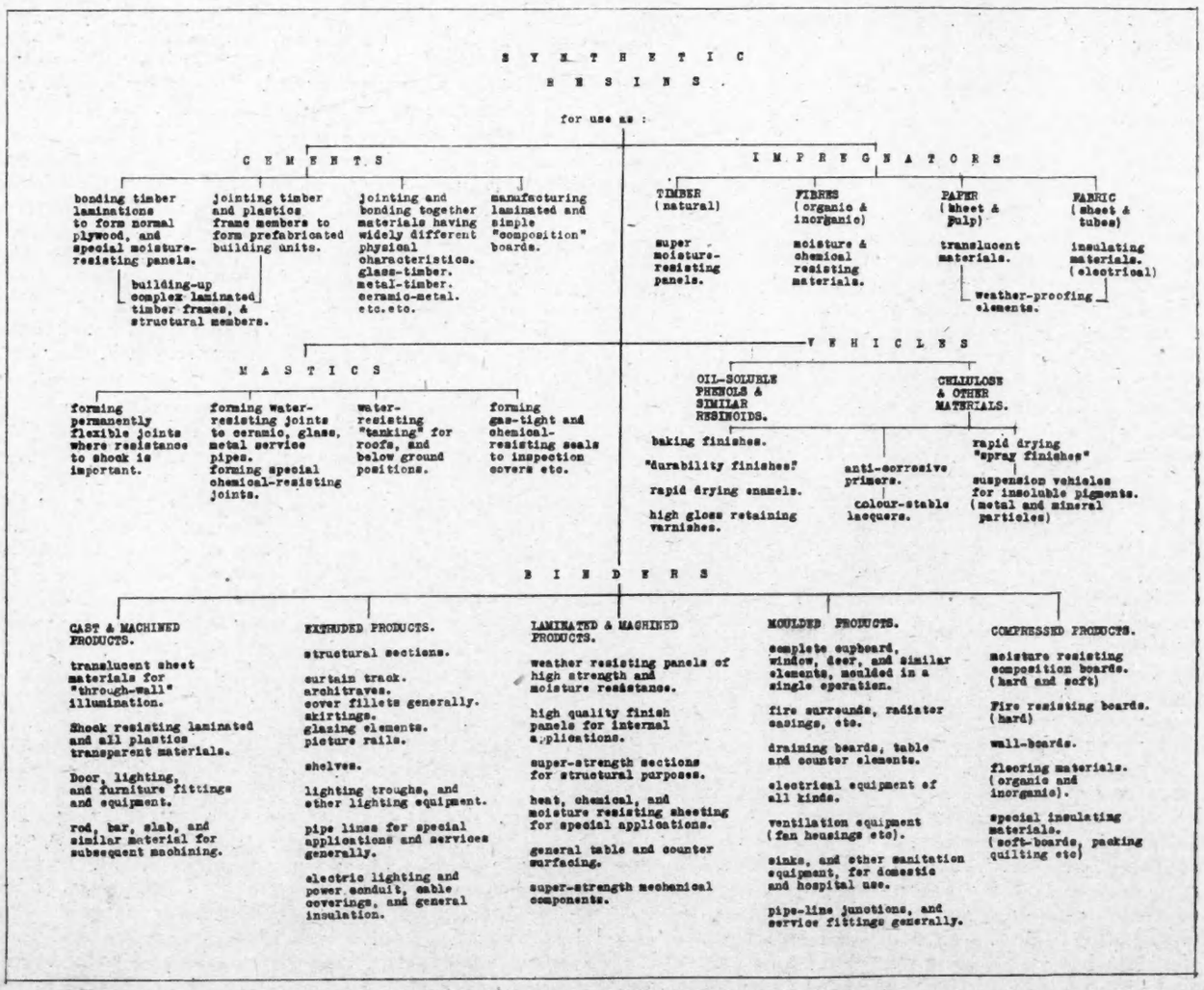
The second important advantage is that, by extrusion processes, a structural member may be produced in plastics in the cross-section which will give the greatest efficiency. Joist, channel and other " steel sections " may be fabricated and in addition hollow sections in round or rectangular form. Thus, not only may plastics sections be given a higher *cost/strength* ratio than would be the case if complex sections were not possible, but special sections may be so designed that they provide an interlock with other structural and finishing parts of a building. This advantage is of course most important where pre-fabricated forms of construction are adopted.

Plastics may be said to be one of the very few materials which combine structural qualities with a naturally satisfactory surface finish free from liability to corrode or otherwise deteriorate. When these factors are taken into consideration, the *cost/strength* ratio of a plastic member will be found to compare much more favourably than when allowances for protecting and finishing competitive materials are not made.

The *strength/weight* ratio of plastics is high, and this factor has resulted in an already considerable and ever-growing development of plastics suitable for the aircraft and auto industries. In current building practice, a high *strength/weight* ratio is admittedly of very much less importance, but wherever questions of prefabrication and mass-production occur, the value of high *strength/weight* ratios is apparent In this connection there are two advantages in a low density material. First, light materials mean less dead loading, and therefore smaller structural members. Second, transport costs are lowered—and transport plays a very important part in any pre-fabrication scheme. A low *strength/bulk* ratio is of course something of a disadvantage in this respect, but it is a very slight one since with road transport low-density material may be carried quite economically.

Plastics are eminently and essentially suitable for pre-fabricated systems, since they are fundamentally mass-production materials. Once the dies for extrusion or the moulds for pressing are made, almost unlimited articles may be produced from them. The first cost of dies or moulds is indeed an important factor to bear in mind in considering questions of design. Precision-made dies or moulds are extremely expensive things, a mould for quite a small article—say, a piece of switch-gear equipment—costing perhaps £200 ! In the lighter forms of construction being considered here, wall and other panels may sometimes be called upon to perform load-bearing functions, and the use of laminated or other built-up plastics materials having sound structural qualities, in addition to a high weather resistance and pleasing finish, may ultimately be an important aspect of the development of plastics for building.

SEMI-STRUCTURAL APPLICATIONS.—Low density and thermal conductivity, together with a high resistance to moisture penetration, may very soon justify the use of plastics for internal and external wall panels, quite apart from questions of load-bearing capacity (as soon, that is, as the economic situation is satisfactorily resolved). In this


SYNTHETIC RESINS
for use as :
CEMENTS
bonding timber laminations to form normal plywood, and special moisture-resisting panels.
building-up complex laminated timber frames, & structural members.
jointing timber and plastics frame members to form prefabricated building units.
jointing and bonding together materials having widely different physical characteristics. glass-timber. metal-timber. ceramic-metal. etc. etc.
manufacturing laminated and simple "composition" boards.
IMPREGNATORS
TIMBER (natural)
super moisture-resisting panels.
FIBRES (organic & inorganic)
moisture & chemical resisting materials.
PAPER (sheet & pulp)
translucent materials.
weather-proofing elements.
FABRIC (sheet & tubes)
insulating materials. (electrical)
MASTICS
forming permanently flexible joints where resistance to shock is important.
forming water-resisting joints to ceramic, glass, metal service pipes. forming special chemical-resisting joints.
water-resisting "tanking" for roofs, and below ground positions.
forming gas-tight and chemical-resisting seals to inspection covers etc.
VEHICLES
OIL-SOLUBLE PHENOLS & SIMILAR RESINOIDS.
baking finishes.
"durability finishes"
rapid drying enamels.
high gloss retaining varnishes.
anti-corrosive primers.
colour-stable lacquers.
CELLULOSE & OTHER MATERIALS.
rapid drying "spray finishes"
suspension vehicles for insoluble pigments. (metal and mineral particles)
BINDERS
CAST & MACHINED PRODUCTS.
translucent sheet materials for "through-wall" illumination.
Shock resisting laminated and all plastics transparent materials.
Door, lighting, and furniture fittings and equipment.
rod, bar, slab, and similar material for subsequent machining.
EXTRUDED PRODUCTS.
structural sections.
curtain track. architraves. cover fillets generally. skirtings. glazing elements. picture rails.
shelves.
lighting troughs, and other lighting equipment.
pipe lines for special applications and services generally.
electric lighting and power conduit, cable coverings, and general insulation.
LAMINATED & MACHINED PRODUCTS.
weather resisting panels of high strength and moisture resistance.
high quality finish panels for internal applications.
super-strength sections for structural purposes.
heat, chemical, and moisture resisting sheeting for special applications.
general table and counter surfacing.
super-strength mechanical components.
MOULDED PRODUCTS.
complete cupboard, window, door, and similar elements, moulded in a single operation.
fire surrounds, radiator casings, etc.
draining boards, table and counter elements.
electrical equipment of all kinds.
ventilation equipment (fan housings etc).
sinks, and other sanitation equipment, for domestic and hospital use.
pipe-line junctions, and service fittings generally.
COMPRESSED PRODUCTS.
moisture resisting composition boards. (hard and soft)
Fire resisting boards. (hard)
wall-boards.
flooring materials. (organic and inorganic).
special insulating materials. (soft-boards, packing quilting etc)

General Summary of Applications of Synthetic Resins for Building.

connection the naturally efficient surface finish of most plastics is a considerable advantage.

The mechanical qualities of many plastics—particularly the paper- and fabric-filled ureas and phenols—are already quite suitable for the manufacture of window, door and other similar semi-structural building components and, apart from the element of cost, complete window-units moulded or built-up of extruded sections could be placed on the market.

Another semi-structural application of plastics sheet material which deserves special mention is the use of paper— or cellulose-filled plastics—probably ureas—for translucent wall panels. Along these lines, many exciting possibilities of development present themselves. Not only could buildings be artificially lit by diffused light through ceilings and wall-panels, but the use of plastics sheet walling units (both internal and external skins) would enable particularly interesting lighting effects to be obtained.

FITTINGS, FITMENTS AND EQUIPMENT.—Space makes it quite impossible to do more than survey very briefly the enormous present and future fields of development in the application of plastics for the construction of fittings and equipment. The summary published on page —— should be considered a very conservative outline of the many branches of building practice in which plastics present possibilities. Particularly interesting is the use of extruded tubes of phenol, urea or the many vinyl plastics, for sanitation and service pipes. The vinyl plastics—as pointed out in the preceding article of this series—are an important group of recent origin, which in many cases exhibit a high resistance to the corrosive effects of chemicals, oils and spirits, and are already being used for service lines in America and some Continental countries.

CEMENTS, MASTICS, VEHICLES AND IMPREGNATORS.—Once again it must be pointed out that the summary of applications under these headings can give no more than an extremely limited indication of the many special and general resinoids and plastics for cementing, impregnating and surface finishing.

The field of oil-soluble resinoids is enormous in itself, and one which undergoes further development almost every day.

The rapid strides being made in the development of some of the cold-setting resinoid cements may conceivably have a most profound effect upon the structural technique of frame jointing. Whole building units cemented together without the use of screws or nails of any sort may soon be applied in connection with pre-fabrication projects.

In conclusion, it may be said that it is literally impossible to foresee the ultimate effect on building practice which the development of plastics may have. Every day here, and elsewhere, the sizes of mouldings which pressing plant can handle are being increased, and laminated sheets of great size are already being produced.

From America come stories of whole aeroplane sections moulded in one single operation, and although such accounts should be treated with a certain caution, it may be that much sooner than any of us imagine, plastics-constructed dwellings—little short of Wellsian imagining—may not only be practicable but essentially economic possibilities.

(To be continued.)

WAR-TIME BUILDING BULLETINS

NO. 10.—GENERAL PRINCIPLES OF WAR-TIME BUILDING.

THE design and erection of a war-time building present a number of problems which do not arise in times of peace, and these are dealt with in War-time Building Bulletin No. 10, just issued by the Department of Scientific and Industrial Research (H.M. Stationery Office, price 1s.). Since a building erected in war time is presumably important in the war effort, the following factors override almost every other consideration :—

(*a*) *Concealment from the Air.*—It is not sufficient to design a building and its approaches and subsequently to apply a scheme of camouflage by paint or other means. Concealment should enter into every phase of the project—choice of site, lay-out, size of buildings, and method of construction.

(*b*) *The Minimising of Damage due to Aerial Bombardment.*—For many types of structure even slight adaptations of design will protect them with some certainty against extensive damage by direct hits or near misses. Other types are by their nature liable to damage and should be avoided. The protection from fire of buildings where inflammable materials are handled or stored has to be reconsidered, since fires started by aerial bombardment are a great danger.

(*c*) *Economy in the use of Materials.*—The large demands on the building industry in war time make it essential that all major structural materials should be used with the utmost economy. Again, this approach to economy starts at the design stage. The plan and layout of buildings, particularly the length of clear spans in larger buildings, affects the saving of material considerably. The designer should choose the type of construction which makes the most important saving of material while providing a building that satisfies requirements. Certain types which have obvious advantages in time of peace make too heavy demands on vital materials in war time.

The Bulletin explains, in one document, how to begin tackling these problems. It is intended to assist the designer in the preliminary stages of a war-time building project. Notes on concealment and the minimising of damage through air attack were contributed by technical branches of the Ministry of Home Security. Some suggestions on how to start saving timber are given in a section written by the Forest Products Research Laboratory of the Department of Scientific and Industrial Research. Information about economy in the use of the other materials was obtained while preparing earlier Bulletins in this series. Slight modifications are made to the factory type designs in structural steelwork (Bulletins Nos. 1 and 4), based on the experience of recent air attacks.

NO. 11.—CONCRETING AND BRICKLAYING IN COLD WEATHER.

It is very important that the cold weather of winter should cause the least possible delay to urgent building work. No one can say whether we shall have such weather this winter that special precautions will be needed. But if we have, there will be no warning, and preparations *must* therefore be made in advance. For this reason the Building Research Station of the Department of Scientific and Industrial Research has published a special Wartime Building Bulletin, No. 11 in the series, entitled "Precautions for Concreting and Bricklaying in Cold Weather." (H.M. Stationery Office, price 1s.)

Concreting and bricklaying are affected by cold weather in two principal ways : (*a*) The mixes harden more slowly than at normal temperatures; (*b*) the water in mortar or concrete mixes may freeze.

What must be done to avoid trouble with concrete depends on how severe the conditions are, but for average winter weather, simple precautions are enough. For instance, concreting should not be undertaken if the air temperature falls below certain limits, and when concreting has stopped the concrete should be covered and protected. Aggregates and mixing plants will need shelter.

For very urgent work which has to be carried on regardless of extremes of weather, more drastic precautions are needed, and for these the Building Research Station has drawn largely on experience in Canada and the United States. For example, pre-heating of materials and the heating of equipment and formwork will be needed, and even after it is deposited, concrete will often require heat during the initial stages of setting. Details of the equipment needed, and the temperatures to be worked to, are all given in the Bulletin. A guide for the stripping of formwork is also given, and notes on the use of calcium chloride are included.

Brickwork must be treated in much the same way as concrete, but special precautions to be taken in mixing and using mortars are mentioned.

OBITUARY

Charles Henman.

The death has taken place, at Worthing, of Mr. Charles Henman. Mr. Henman, who was 95, lived in Croydon from 1855 to 1912, and was the eldest son of Charles Henman, F.R.I.B.A., who designed Kingston Town Hall 117 years ago.

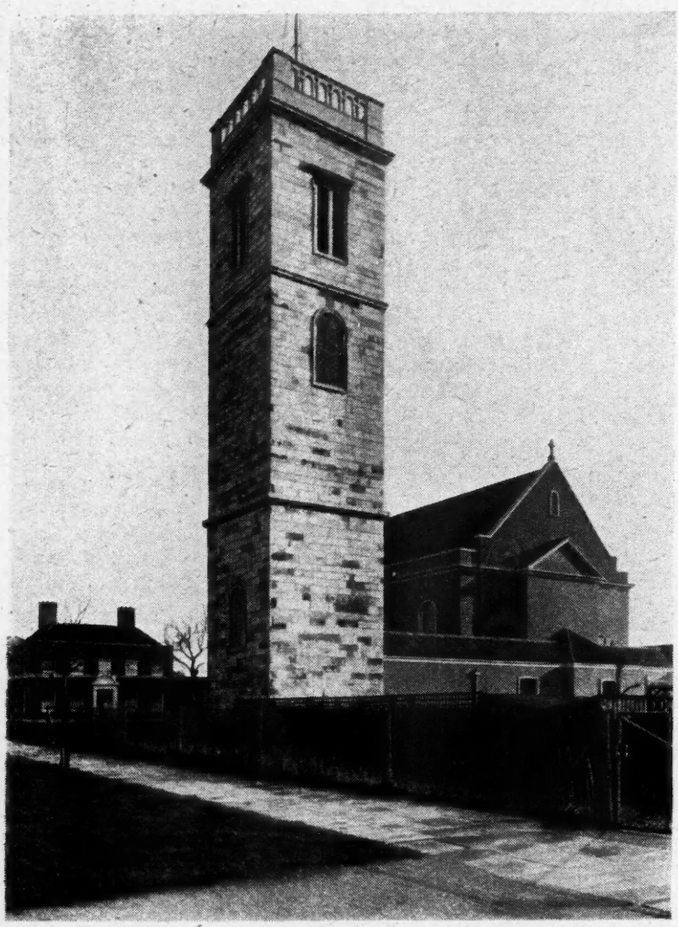
Mr. Henman, who was articled to his father, designed the Town Hall at Croydon and the Braithwaite Hall adjoining it. The old schools at Southwick were built from his designs, and the Walsall Hospital was another of his successful efforts, while his designs were accepted for the Penny Bank, Victoria-street, S.W.

Sir Edward Knapp-Fisher, C.V.O.

Sir Edward Knapp-Fisher, who has died at the age of 76, was from 1917-1938 Chapter Clerk and Receiver-General of Westminster Abbey, and as such was largely responsible for the great ceremonies there—royal weddings, installations of Knights of the Bath, and the Coronation. He was knighted in 1930 and created C.V.O. in 1938 on his retirement.

George Percy Trentham.

The death has taken place as the result of enemy action of Mr. George Percy Trentham, Sheriff of the City of London. Mr. Trentham was the junior Sheriff of the City of London and on the Court of Common Council. He was a public works contractor, being head of the firm of G. Percy Trentham, Ltd., and was engaged in an honorary capacity on work for the Government. Mr. Trentham was a Liveryman of the Paviors' Company. A fly-fisherman of international renown, he had captained the English team on two or three occasions.

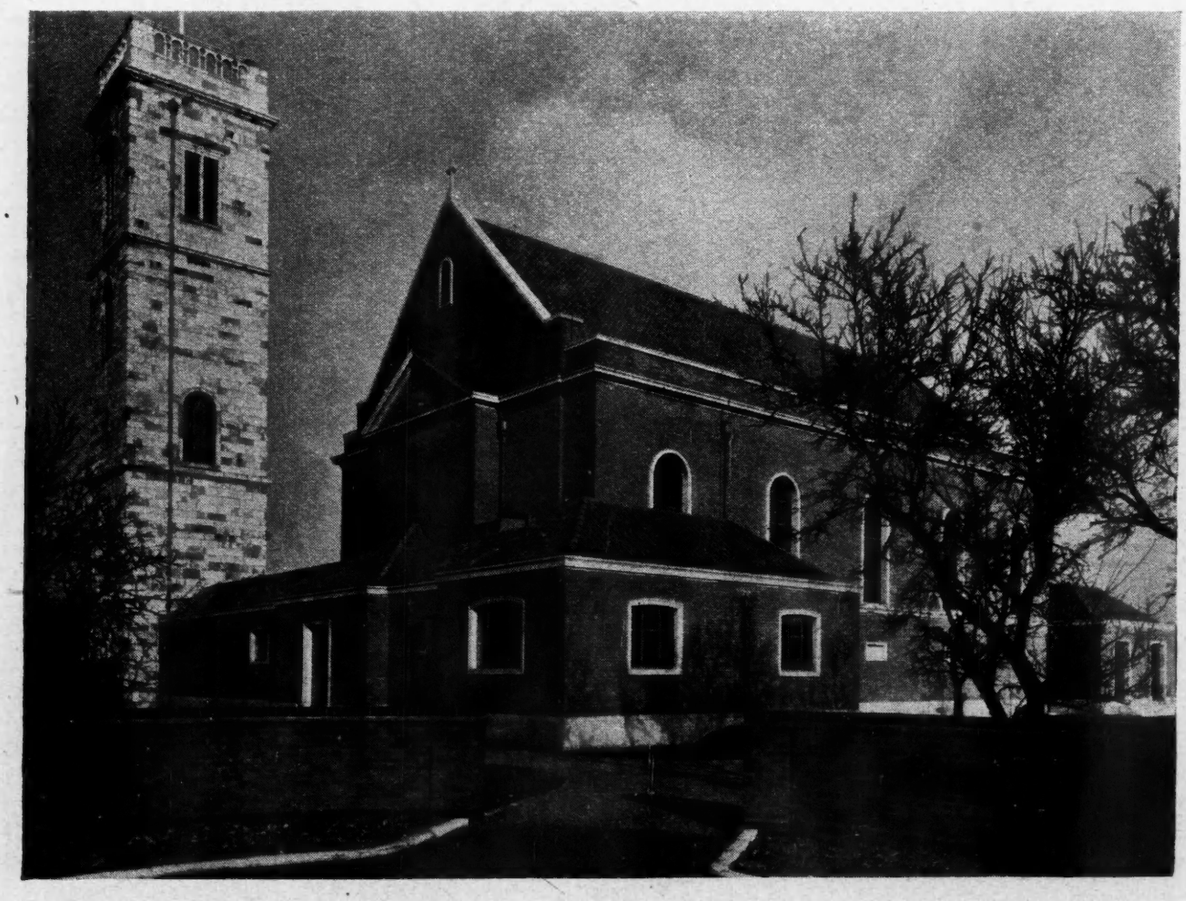


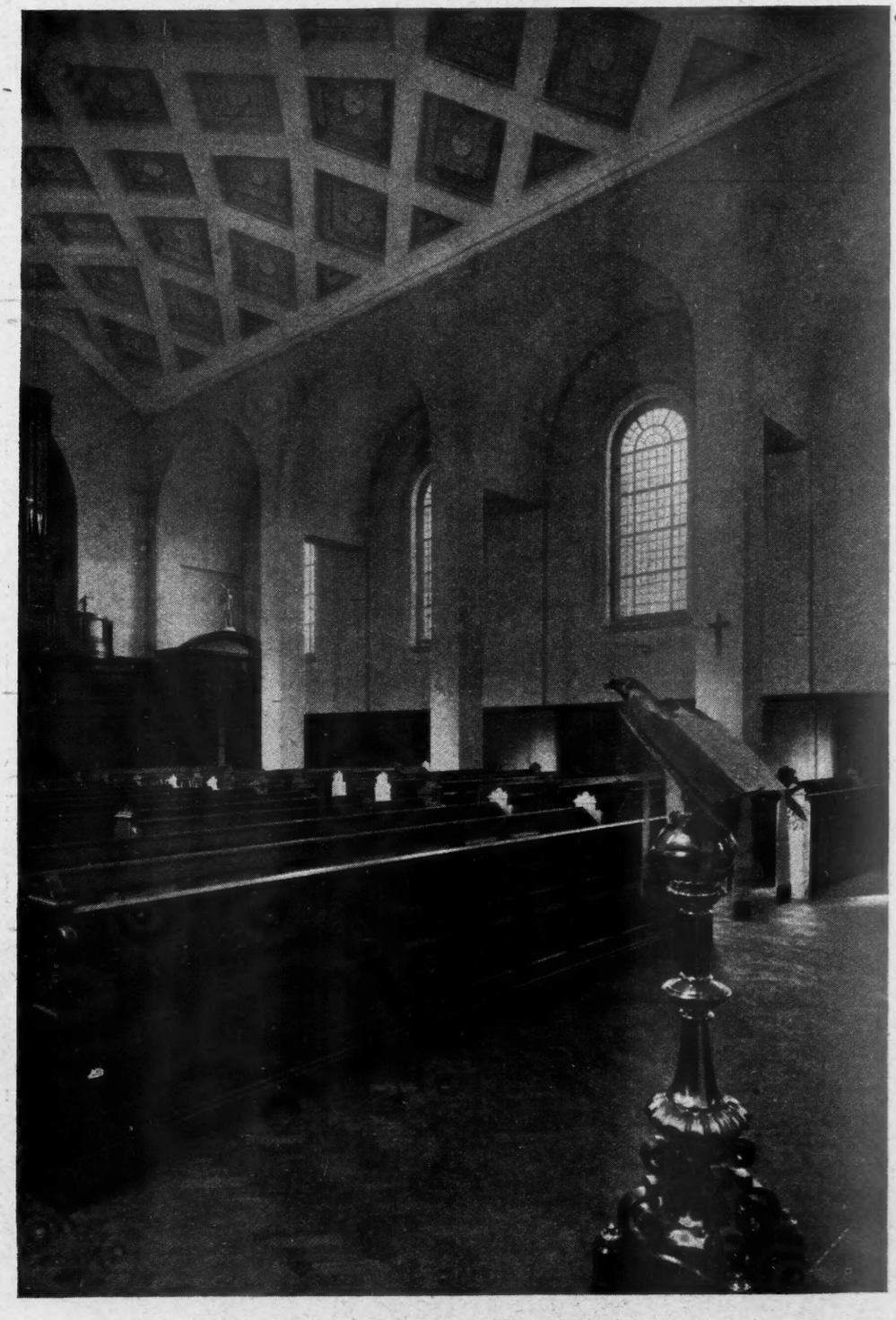
ALL HALLOWS CHURCH, TWICKENHAM.

MESSRS. ROBERT ATKINSON, FF.R.I.B.A., ARCHITECTS.

Left: VIEW OF TOWER FROM WEST.

Below: VIEW OF CHURCH FROM SOUTH.





VIEW FROM CHANCEL TOWARDS WEST.

ALL HALLOWS CHURCH, TWICKENHAM.

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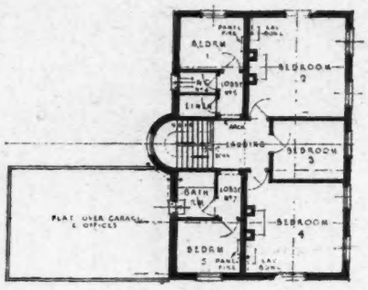
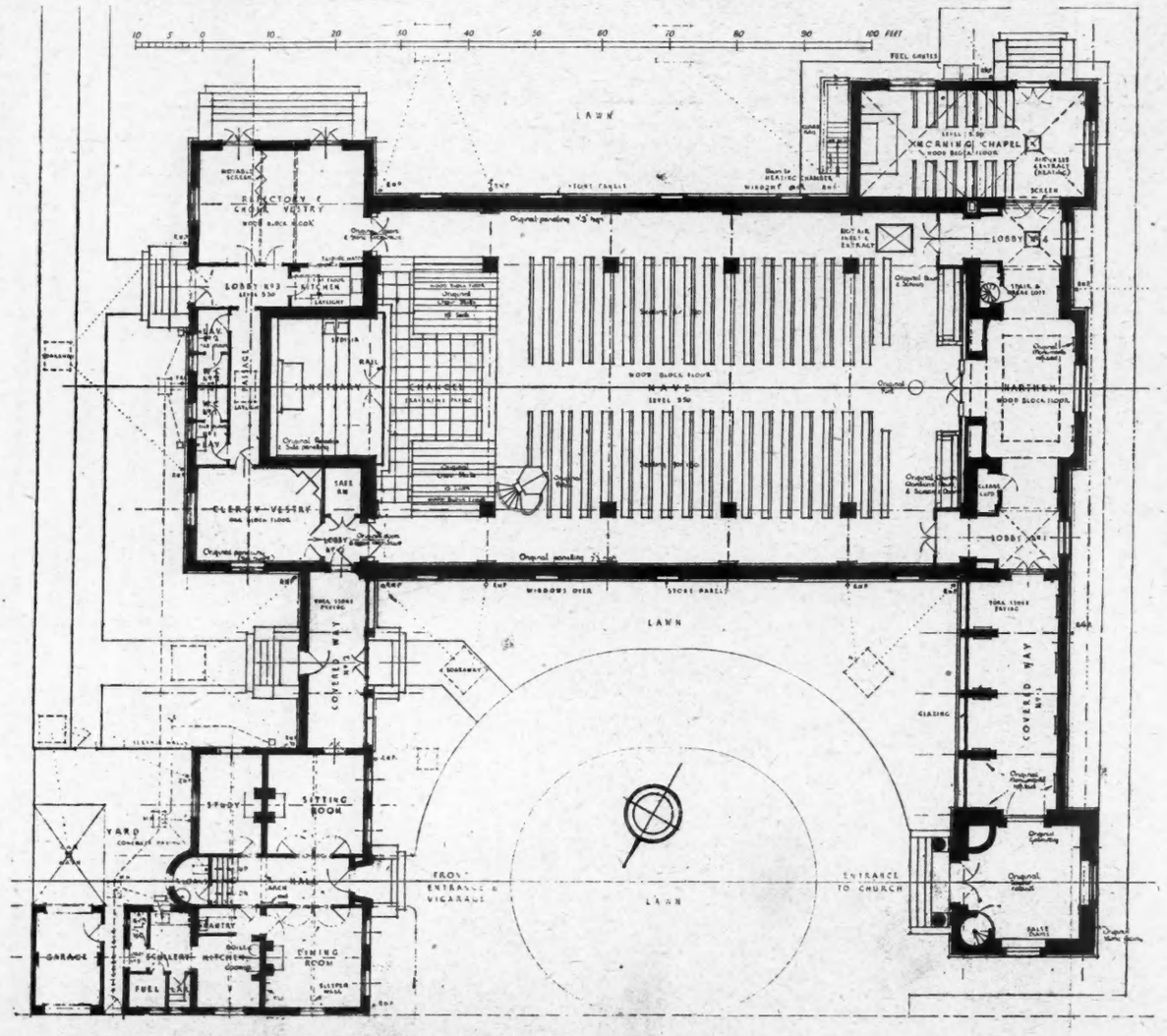
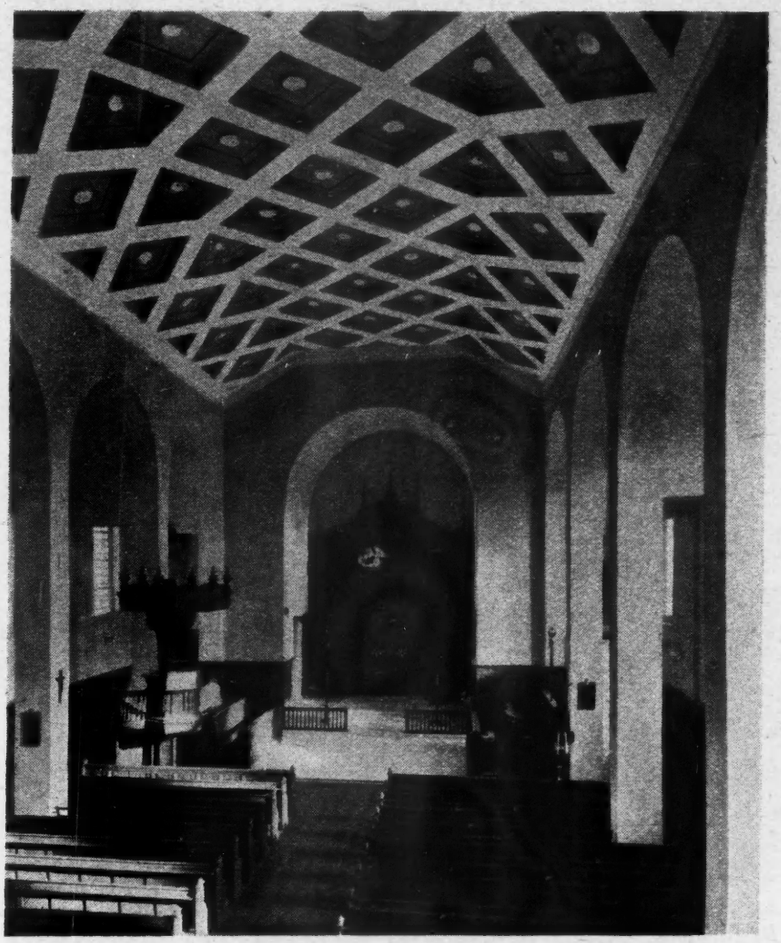


Left : **FIRST-FLOOR PLAN OF VICARAGE.**



Above : **GROUND-FLOOR PLAN.**

Left : **COVERED WAY TO TOWER. THE MONUMENTS ARE TAKEN FROM THE OLD CHURCH.**



VIEW FROM ORGAN LOFT LOOKING TOWARDS CHANCEL.

THE Church of All Hallows was built from funds secured by the sale of the site of All Hallows, Lombard-street, in the City of London, and was therefore called All Hallows to perpetuate the name.

From All Hallows all the fittings —which were of a remarkably fine character, including the organ, pulpit, font, reredos, choir stalls, etc.—were refitted in the new church, designed primarily to contain these fittings and to harmonise with them, so as to carry on the Wren atmosphere as far as possible.

The tower of All Hallows has been rebuilt, in so far as the external stonework is concerned, but the backing, which consisted of rubble masonry, has been replaced by brick backing in the new tower; also, owing to scarcity of timber, the floors of the tower are of reinforced concrete. The church is built of an orange-coloured brick, with Portland stone dressings, and a pantile roof of a buff colour.

An essential feature of the planning was the covered way or cloister to contain the monuments from the old church; this was used to connect the old tower with the new building.

The main building of the church was set back as far as possible from the roadway so as to form a forecourt to give access to the vicarage and to the tower, and to form a parking space for cars off the main traffic route. The vestries, one of which contains the original panelling from All Hallows, are on a generous scale, as the choir vestry is intended to be used as a committee room, and on occasions for meals for members of the congregation. There is nothing remarkable further to describe, as the plans give details of the internal arrangements.

The morning chapel contains all the fittings from the existing church of St. Michael, which has been converted into a parish hall.

The cost of the church has been as follows: Church, £18,000; Vicarage, £3,500; Tower and Cloister, £6,000; giving a total of £27,500. Owing to war costs, of course, the original contract has been considerably increased.

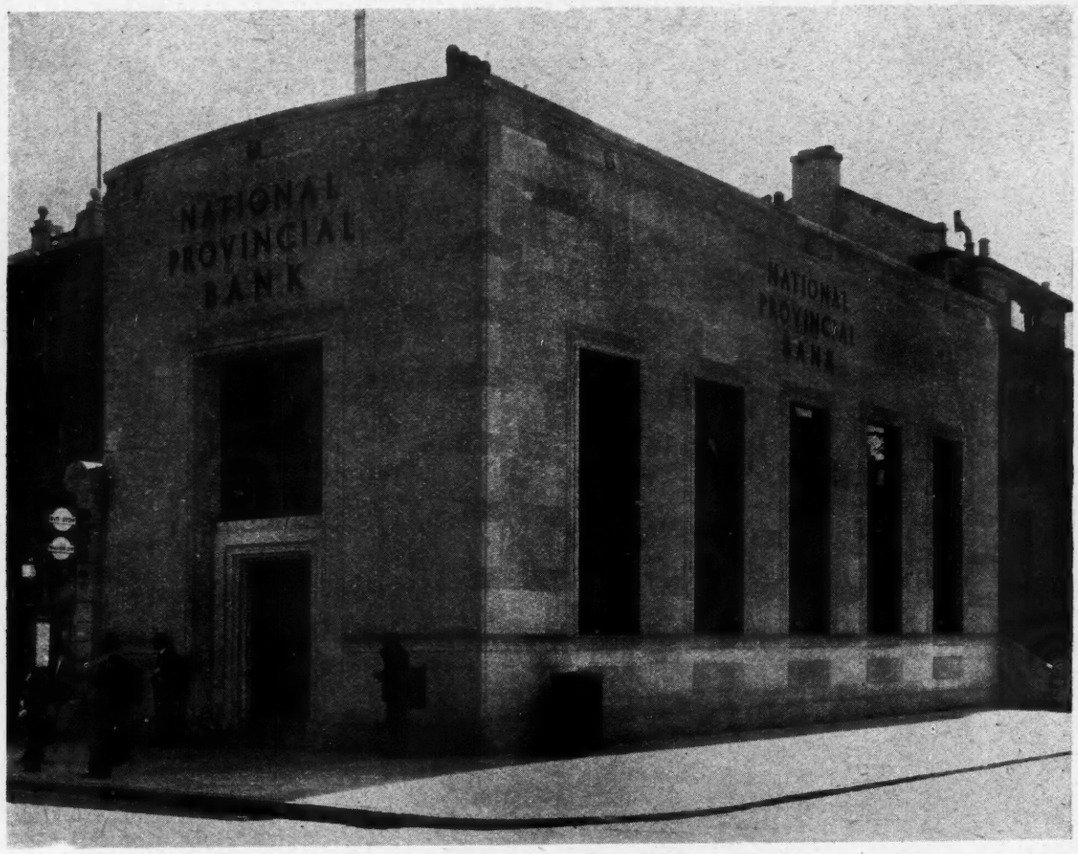
The acoustic consultant was Mr. Hope Bagenal, D.C.M., A.R.I.B.A.; the quantity surveyor, Mr. F. Saunders; the consultant engineer, Mr. S. W. Budd; and the clerk of works, Mr. A. W. Botsford. Messrs. W. Aumonier & Sons executed the carving and lettering; and the dismantling of the old panelling was done by Messrs. Ashby & Horner.

The general contractors were Messrs. C. H. Gibson, Ltd., of Croydon; and sub-contractors engaged were: Heating, Ariel Chase; fireplaces, Bratt, Colbran, Ltd.; copper roofing, L. Carter & Co., Ltd.; ironmongery, Carter & Aynsley, Ltd.; sanitary fittings, J. Bolding & Sons, Ltd.; electrical installation, Electric Maintenance, Ltd.; refitting old panelling, etc., Green & Vardy; plastering, G. Jackson & Sons, Ltd.; wood-block floors, Hollis Bros., Ltd.; church bell, Mears & Stainbank; roof tiling, Roberts Adlard & Co., Ltd.; electrical fittings, Troughton & Young, Ltd.; windows, C. E. Welstead; hot-water supply to vicarage, White, Bays & White, Ltd.; Travertine paving, etc., J. Whitehead & Sons, Ltd.

Right: VIEW OF ORGAN FROM THE NAVE.

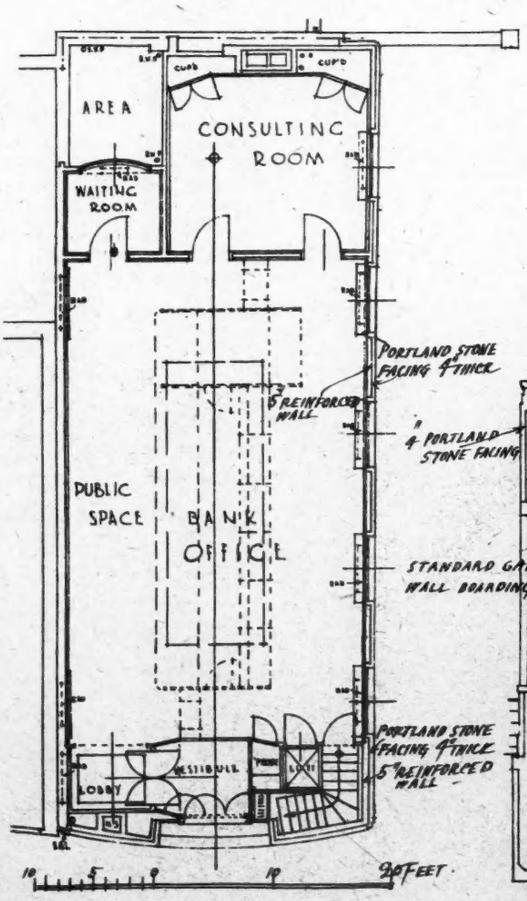
ALL HALLOWS CHURCH, TWICKENHAM.

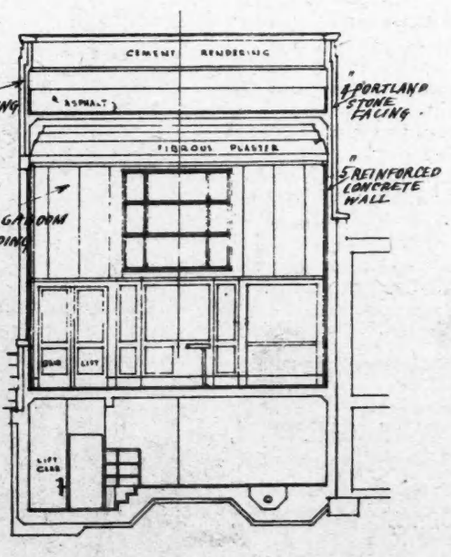
MESSRS. ROBERT ATKINSON, FF.R.I.B.A., ARCHITECTS.



BRANCH PREMISES, EALING, FOR NATIONAL PROVINCIAL BANK.

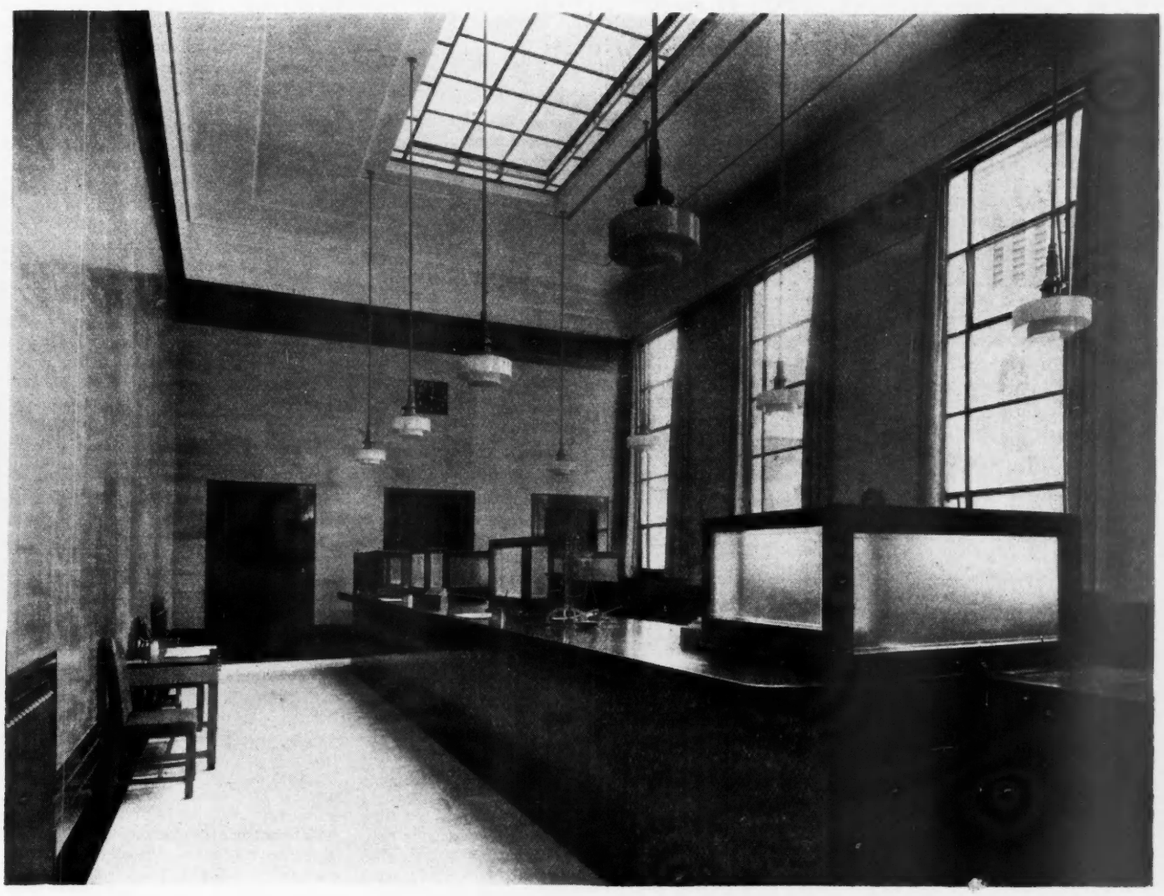
MR. W. F. C. HOLDEN, F.R.I.B.A., ARCHITECT TO THE BANK.





Left: GROUND-FLOOR PLAN.

Below: SECTION THROUGH BANKING HALL, LOOKING NORTH



THE BANK OFFICE.

THIS building is situated at the corner of the Mall and Windsor-road. The whole building is constructed in reinforced concrete, the outer walls being faced with Portland stone. The walls above ground level are generally 5 in. thick reinforced concrete, the bank office being 22 ft. high from floor to soffit of concrete roof. The Portland stone facing, 4 in. thick, is used as the outer shuttering for the concrete. Dovetail grooves are cut in the back of each stone to provide a key, and in addition each stone is secured to the concrete by means of copper cramps cast in the concrete as the wall was built. The back of the stone facing is treated with a waterproof compound.

The walls inside are lined with ½-in. standard gaboon boarding, the battens to which this is fixed being secured to the wall by means of non-ferrous metal clips cast in the concrete during erection. The window frames and joinery generally are in teak. General contractors were Messrs. C. P. Roberts & Co., Ltd. Sub-contractors were: Stone, Bath & Portland Stone Firms; reinforced concrete, Reinforcement Constructions, Ltd.; heating, James Slater & Co.; iron drainage, Burn Bros.; and hand-lift, Johnson.

BRANCH PREMISES, EALING, FOR THE NATIONAL PROVINCIAL BANK.

MR. W. F. C. HOLDEN, F.R.I.B.A., ARCHITECT.

SCHOOL NEWS

THE LEEDS SCHOOL OF ARCHITECTURE.

Mr. Phillip Robinson, Director of the Bradford Civic Playhouse, in an address to the Leeds Architectural Students' Association Luncheon Club on December 4, on the subject of "Architecture and the Theatre," gave a brief and critical summary of the major developments in theatre design from Greek times and indicated the strong influence of tradition on present-day production. He criticised contemporary theatre design, but whilst not prophesying the exact form of the theatre of the future, he indicated possible developments which might take place partly as a result of the Little Theatre movement in America. The architect, he said, did not seem to be aware of the extent to which he as designer had influenced and would influence drama itself, and to illustrate this point Mr. Robinson showed how architecture and the form of the drama reacted on each other.

It was particularly refreshing (writes J. S. A.) for architectural students to hear a speaker who, an accepted authority on theatre design, paid tribute to the contribution which the architect can make to the actor's sphere. At the same time, Mr. Robinson's list of "Don'ts" for architects was particularly appreciated, coming from the Director of the Bradford Theatre. The students were also interested to hear an account of the manner in which he had approached the problem of designing his own building in collaboration with the architect, Mr. Eric Morley.

THE WELSH SCHOOL OF ARCHITECTURE, THE TECHNICAL COLLEGE, CARDIFF.

Architectural Acoustics.

Under the auspices of the Welsh School of Architecture, the Technical College, Cardiff, a lecture was given on Friday, November 15, in the Physics Lecture Room in the Technical College by Mr. Hope Bagenal, A.R.I.B.A., on the subject of "Architectural Acoustics." Mr. W. S. Purchon, M.A., F.R.I.B.A., Head of the Welsh School of Architecture, presided over an audience consisting of architects, students of architecture, physicists, and others interested in acoustical problems.

Mr. Bagenal, who illustrated his lecture by means of diagrams, dealt with a variety of problems which arise in different types of buildings and showed how by careful planning and construction noise troubles could be considerably reduced. He emphasised the importance of considering the acoustical aspects of design problems at an early stage, as in that way considerable economies could be effected.

After the lecture Mr. Bagenal criticised a series of acoustical designs which had been prepared by the senior students in the Welsh School of Architecture, and on the following morning he gave a second lecture to the students.

TOWN AND COUNTRY PLANNING

COMPENSATION AND BETTERMENT

TOWN PLANNING INSTITUTE REPORT.

THE Town and Country Planning Advisory Committee appointed by the Minister of Health, in their Report on the Preservation of the Countryside, dated July, 1938, drew attention to the way in which essential schemes for preservation were hampered by the present cumbersome machinery of compensation and betterment. The Advisory Committee recommended that, when the Royal Commission on the Distribution of the Industrial Population had reported, an investigation should be carried out into the present working of compensation and betterment and its effect on planning, etc.

The Council of the Town Planning Institute had for long been aware of the difficulties referred to, and these had been discussed by its members. In view of the recommendation of the Advisory Committee, the Council appointed a Committee of the Institute to investigate the whole problem. The Report of the Committee was presented to and adopted by the Council in May, 1940, and has now been issued.* Meanwhile (January, 1940), the Royal Commission had issued their report, in which they referred to the difficulties of the situation and recommended that the Government should appoint a body of experts to examine the questions involved.

The Report of the expert committee appointed by the Institute comprises a review of existing legislation on the subjects of compensation and betterment and the acquisition of land by public authorities and a description of its evolution. Various reforms that have been recommended from time to time are also described, and foreign practice is outlined in an appendix. The report concludes with a chapter in which the problem and suggestions for its solution are discussed as a whole and definite recommendations are made. Most of the amendments proposed relate to the Town and Country Planning Act as related to England and Wales. Consequential amendments would be necessary to the adaptation and modification of the Act in its application to Scotland.

Principal Findings and Recommendations.

(1) After carefully considering all aspects of the question, the Committee are satisfied that essential planning, and particularly replanning, cannot be carried out effectively under the existing legislation governing compensation and betterment; nor under any development of a system which involves the separate assessment of compensation and betterment in respect of each individual interest.

They do not find that existing legislation is, in general, unjust to either private or public interests, although they recommend a number of amendments to mitigate existing anomalies. But they do find that the multiplicity and variety of interests that have to be taken into account are a permanent and formidable obstacle to the achievement of positive results by statutory planning.

(2) Consequently, they express the opinion that in cases where private ownerships present an obstacle to securing planned development, redevelopment or conservation on an economical basis, essential simplification and equity are likely to be best achieved by wholesale purchase of areas by planning authorities. To facilitate this, they recommend an amendment to Section 25 of the Town and Country Planning Act and couple their general recommendation on this aspect of the subject with an observation pointing out how essential it is that all publicly owned land should be subject to planning control under Town and Country Planning Schemes.

(3) Attention is drawn to the anomalies of the present position under which, for example, land is valued by one authority for the purpose of death duties and by another for rateable value. It is recommended that all the land in the country should be planned, and should be valued by one authority at one time, upon uniform principles. Such valuation to be revised periodically, at intervals of, say, five years, and to govern the terms of purchase by public authorities and to serve as a datum line for the assessment of compensation and betterment.

The bulk of the land in England is already being planned, and the small balance in that country and the greater balances in Scotland and Wales should forthwith be brought under planning control. This having been done, coupled with the proposed amendments to the Act, and followed by the universal valuation recommended, should have the effect of meeting the views of the Town and Country Planning Advisory Committee and enable planning schemes to secure rural preservation on a sound and fair economic basis. It should also check extravagant claims in connection with schemes for the redevelopment of built-up areas.

(4) The Town and Country Planning Act already enables a scheme to provide that a number of its provisions shall not give rise to claims for compensation. The following recommendations are, in the main, directed to clarifying certain anomalies in these provisions and to extending their scope, in the light of experience, but without infringing the provisions safeguarding private interests.

(5) Since 1909 it has been lawful for schemes to provide for the exclusion of compensation in respect of provisions which prescribe the space about buildings or limit the number of buildings. This helps to secure adequate living space, but of almost equal importance is the proper siting of buildings so that one may not obstruct light or view from another and so that they may be disposed on the ground with due regard to convenience and amenity. To meet this point the Committee recommend that "siting" should be added to the provisions that may be excluded from compensation.

(6) It is essential that high-quality agricultural land should not be put to other uses, except for considered and valid reasons. Unfortunately, the Town and Country Planning Act ignores agriculture, except, unhappily, to exclude most agricultural buildings from most of the provisions of planning schemes. The Committee make recommendations with a view to making it economically possible for a planning scheme to protect agriculture from serious interference.

(7) It is pointed out that the provision of roads is an essential part of residential development and that the provision of open spaces is now regarded as a normal requirement. It is therefore recommended that schemes should be entitled to require an owner, before offering land for sale or lease for building operations, to submit an adequate layout plan. Also, that in such plan he should be required, without compensation, to allocate not more than 35 per cent. of the area for the purposes of streets and open spaces, or to make a cash payment in lieu of such allocations, such payment to be used by the planning authority for the provision of open spaces in or adjacent to the land in question.

The Committee also commend the recommendation of Mr. A. Noel Mobbs to the Royal Commission on the Distribution of the Industrial Population, that in order to provide finance for the reservation of open spaces and playing fields, a charge of 5 per cent. might be made on the cost of new buildings in areas zoned for industrial development and housing in connection therewith.

(8) Under the Town and Country Planning Act, existing buildings and uses are protected and cannot, without compensation, be interfered with. This greatly hampers the improvement of backward areas, and the Committee consider it to be unreasonable that all existing buildings and existing uses should be protected indefinitely, particularly as the only buildings or uses requiring any such protection must, *ex hypothesi*, be such as are out of place, having regard to the proper planning of the locality, and may be at an excessive density according to all reasonable standards of health.

It is therefore recommended that no compensation shall be payable if such buildings or uses are given a life of not more than 20 years, or such longer period as the scheme may provide. The last words are added in order to meet the case of a non-conforming building erected shortly before preparation of the planning scheme began.

(9) The working of minerals presents grave problems in connection with planning. Surface working destroys and leaves derelict large areas of good land, and underground working causes subsidence, which renders building unsafe and causes flooding and seriously interferes with sewage disposal, etc.

The gravity of the problem presented by the surface working of iron ore was recognised by the Government when they appointed a Departmental Committee, under the chairmanship of Lord Kennet, to report on the matter. Iron ore is, however, only one form of despoilment; large areas of land are also laid waste by the removal of gravel, etc.

In the present report it is fully recognised that minerals are an important national asset and that no unnecessary obstacle should be put in the way of their working. It is also recognised that there are other assets and that, therefore, a reasonable balance has to be found. At present, mineral working is amply protected by the Town and Country Planning Act, and it is not suggested that this protection should be reduced. On the other hand, it is strongly recommended that the owner should not be allowed to have the best of both worlds, but should be required to choose between mineral value and building value. The amendment proposed would enable a scheme to secure that when surface minerals have been exploited, no building value shall attach to the land and that, consequently, the land will be available for open space uses or for agriculture or afforestation at a value which makes such uses practicable.

(10) The Town and Country Planning Act provides for the payment of compensation in full, but only allows betterment to be recovered to the extent of 75 per cent. The Act also includes complicated provisions designed to ensure that recovery shall not take place until the benefit has been actually realised and limiting the time in which recovery can be claimed to a period of 14 years.

The Committee do not quarrel with the principle of postponement of recovery until benefit is realised, but as planning schemes are based on long-term policy they consider that the period of recovery should be extended to at least 20 years, and they see no reason why betterment should not be placed on the same footing as compensation and the whole be made recoverable.

* Obtainable from the Town Planning Institute, 11, Arundel-street, London, W.C.2. Price 1s.

Diaries for 1941.

War has many and various reactions, and one is to make the Diary, as a present and for personal use, more popular than ever. Diary publishers have to plan ahead, and thus, for 1941 at least, the quality of paper and binding is of pre-war standard, and the issues coming from the house of Charles Letts and Company show few reductions, either in quality or range. Among those editions which will be the most popular are the Services, the Red Cross and the A.T.S. Diaries. These make excellent gifts to friends of readers serving with the Forces. Those old friends, the Gardener's, Scout's, Guide's, Business Man's, Farmer's, Housewife's and Motorist's, and many others, are still with us. They are obtainable in a wide range of sizes and bindings either from stationers or from Messrs. Charles Letts and Co., Diary House, Borough-road, S.E.1.

PROBLEMS OF BUILDING RECONSTRUCTION

BY D. E. GIBSON, M.A., A.R.I.B.A., A.M.T.P.I., CITY ARCHITECT, COVENTRY

We have been at war for little more than a year, but social and economic changes of far-reaching significance are already taking place, and many things which are forced upon us as war emergencies may well prove to be fundamental steps towards the goal of universal happiness for which we all strive, either consciously or unconsciously.

Before the war, many of us whose energies were concentrated on improving material environment felt an increasing degree of frustration in our efforts. Great strides were being made in scientific discovery, but the sum total of human happiness was not progressing in the same ratio. Medical research produced miracles, but still diseases of the body and mind ravaged great numbers of the population; motor-cars increased in speed and technical efficiency, but road deaths increased, too. For a great civilisation such as ours, general education was far below any human standard, and the great increase in vulgarity, bad taste and coarseness, combined with a loosening of moral integrity, can only be ascribed to a lack of education for living, and especially to a chaotic and ugly environment. The Metropolis was the great magnet, but, owing to the misapplication of democratic principles, it became a morass of barbarity in which too many sought to better themselves at the expense of others. This gross philosophy was never more clearly shown up than in the supply of living accommodation; in the city centre great blocks of flats grew up, cramped in outlook, ignoring the elementary principles of planning for sunlight, and built upon streets originally intended for two- or three-storey houses only. In the suburbs great areas of the most beautiful landscapes the world has ever seen have been destroyed, trees and hedges have been rooted up, and the whole converted overnight into a dreary and discordant medley of tiles and pebble dash and imitation half-timbering, lacking the most elementary provision for social intercourse. Meanwhile, looking on impotently, was a great body of highly trained architects and planners, visualising rational and ordered plans for living, but powerless so long as the chief concern of building development was private profit.

Need for a Plan.

But now there is a lull; and instead of unconsidered building there is destruction—equally unconsidered, and more lethal in its immediate effect—and new open spaces appeared. People are asking themselves: "Will they just be filled up as they were, or will we take advantage of this opportunity? Will the landowners with their often short-sighted and acquisitive outlook again be allowed to smash the ideas of our twentieth-century Wrens?" For, make no mistake, the talent is there waiting to be used.

Presuming, as we must, that the outcome of this war will be the same as the last, it is only reasonable to suppose that similar problems will occur again, but in some cases in an aggravated form. The housing problem will be even more acute, and whatever the financial state of the country, housing and other building schemes will have to go on, because they employ so much labour and involve so many varied trades. It is better to employ men and material and get something worth while than to pay dole and encourage human decay. It is interesting to note that similar decisions were forced upon the Roosevelt administration in America and upon Mussolini in Italy, and also Hitler in Germany.

When this rebuilding takes place there must be an ultimate plan in view, and as planning takes time, it is evident that at least some of the thinking should be done now. As a material idea we should postulate the right of every man and woman to a healthy and beautiful environment. This cannot be acquired merely by local planning, but national planning is also required, so that the first step should be the formation of a full-time committee of highly trained planners in possession of such knowledge as already exists, such, for instance, as the report of the Commission for Industrial Distribution of the Population, the relevant P.E.P. Report, and the Report of the proposed Severn Barrage Scheme. This Committee should have the widest powers possible in war time, and no vested interest should be allowed to withhold from it information necessary for the preparation of a long-term national plan. To assist this central committee every town should have in its architect's department a group of town planners, preparing a local survey from which a comprehensive plan could be constructed.

Population and the Countryside.

At present there is a tendency for populations to converge on a few great centres, leaving the countryside and its natural industries to decay. I believe that this movement is wrong, and I would like to see a reversal of this present tendency. It should be possible, with the grid and cheap electricity, to have a network of clean, healthy towns, small enough for every man to be within calling distance of the country, and yet large enough to provide collective facilities for decent cultured living. The towns would aim at consuming as much as possible of the products of their local region. In this way the towns and country, so long divorced, would be regenerated. The keynote of the planning committees to which I have referred should be decentralisation and regeneration.

It will take some time to work out all the details of the major problems, and in the meantime there will be the immediate post-war problems to be considered. There will be a shortage of labour, because of the tremendous volume of the work proceeding, and an even greater shortage of skilled labour owing to the war-time diversion of building operatives into the factories and the services, with a consequent loss of craftsmanship. There will also be a shortage of certain materials which it will be impossible to import rapidly enough.

After the last war these conditions gave rise to the production of pre-fabricated steel and concrete houses, mostly of very poor design. They were unsatisfactory because of the lack of scientific research which had been carried out. They were cold and noisy, they had condensation in winter and they got too hot in summer. In recent years the Building Research Station has done an immense amount of technical and scientific research on building materials, and these defects should not arise again. The faults lay not with the materials involved, but with the manner in which they were used; there had been no opportunity of trying out these new methods before putting them into use. Some of the problems to which I have referred above are already presenting themselves in war-time building which is proceeding at present in Coventry, and for this reason I would like to describe the work very briefly.

House Building in Coventry.

The city of Coventry is one of the few places where house building is continuing during the war. [Drawings were published in *The Builder* for July 26, 1940.—Ed.] Some 2,500 new houses are being built, as well as four guild houses, in order to provide accommodation for workers and their families who have been called to Coventry. My team of architects hoped that the opportunity should be taken of providing buildings which would be an asset to the city's peace-time needs. The first problem was to find suitable sites. In view of the urgency of the work and the shortage of labour it was not possible to provide new road layouts, and the houses had to be erected on roads which already existed and which had been laid out for speculative building. This meant that the houses had to follow the usual street line, and it was not possible to introduce community centres, which are among the things most lacking in housing development in this country.

The Use of Concrete.

One of the immediate difficulties to be faced was the lack of timber and steel, and ways had to be found for building with the minimum of these materials. The main substitute was concrete, using a small amount of steel for reinforcement, and these materials have been used for ground floor, first floor, roofs, and staircases. The important point to remember in using concrete in this way is that the plans must be specially arranged so that the concrete beams are all of standard lengths, because the concrete is poured into moulds, and it is obviously cheaper if only a few moulds have to be made than if there are many moulds of different sizes. Before the new plans were prepared an attempt was made to substitute concrete floors in the old type of houses which had been designed for timber, but it was found that a saving of £15 per house could be made by standardising the length of beams. There is a general feeling that concrete is a cold and hard material for house building, but with proper design and construction the resulting house can be made more comfortable and more permanent than the normal house which was built before the present war. In the new houses which are now being built the floors contain sealed air cells which will stop cold from the ground from reaching the room. The concrete is covered with special floor blocks which are warm and beautiful and do not require carpets as does the ordinary

A paper read before the Royal Society of Arts on December 4. Mr. W. H. Ansell, M.C., F.R.I.B.A., presided.

wooden floor. The walls are built of two brick leaves with an air space between them to stop damp penetrating to the inside and to keep the house warm in winter. The staircase is of concrete brought to a smooth surface with provision for fixing fitted carpets. The concrete on the first floor has cork lino stuck to it as a floor finish. The usual wooden skirting has been replaced by a tiled one. The flat roof is of reinforced concrete, which contains a waste product obtainable from blast-furnace slag, of which there is plenty in this country. This is a new material which has good insulating properties, and also has many other technical advantages. The only timber which is being used is in the doors, and from this it will be seen that the houses are almost fireproof and will not be subject to dry rot.

Air-Raid Shelters in Houses.

An entirely new idea in these houses has been the provision of an air-raid shelter inside the house. This should prove very popular, as people do not like to go out from a warm house on a wet night into a cold damp shelter. The shelter is inside the building and opens into the kitchen. The walls are of 14-in. solid brickwork and it has two layers of reinforced concrete over it. It is big enough to take a full-size mattress, and these can be fitted one above the other like bunks. A ventilator has been provided, and if poison gas should be used the inlet ventilator could be fitted with a small gas filter in the fan. As the shelters are built into the houses, and as the houses are in blocks of four and six, the adjoining walls act as buttresses which should give the shelters additional support.

In the general appearance as seen from the road, the design of the houses has been carefully considered, and some of the garden sheds have been brought to the front to form an interesting link between the blocks of houses, and have the advantage that they can be used as garages for small cars or motor-cycles. Good features of the English village, such as a strip of common lawn between the houses and the roads, have been introduced, instead of the disordered appearance of many small front gardens.

In recent years the whole conception of the house has been undergoing a fundamental change. People are realising that technical advances in interior design, such as modern bathrooms, kitchens, suntrap windows, and electrical panel heating, cannot be expressed on the outside by imitation Tudor façades, which in any case are only due to literary influence. Let us be honest: a house is an instrument for living in, just as an aeroplane is a machine to travel in. This is equally true of houses of any period, and the appearance of the machine depended on the social outlook of the time and the degree of technical progress in building.

The architect's duty to-day is to make his machine suit the needs of the people, and achieve beauty with the use of all the technical advances which are at his disposal.

Too Permanent Building.

There are to-day too many houses, schools, libraries and offices which cause us discomfort and annoyance by their inadequacy for contemporary needs, but are too solid and too expensive to pull down.

Building science is advancing so rapidly that we have no right to build for a thousand years. A university is a permanent thing, but the permanence should lie in the continuity of learning, not in the building, which satisfies the wants of yesterday but hampers those of to-day. A house should be regarded as permanent only for about thirty years, and should then be replaced by an up-to-date one. This would, incidentally, help the inevitable movement of population which will be caused by the war and by our national post-war plan. All materials in a house should, if possible, be designed to live the same useful life, just as in a modern car; in contrast to the small house of to-day where the bricks *might* stand for a thousand years and the softwood bay windows only twenty years without extensive repairs. But bay windows, doors, cupboards, and most of the other components of the speculatively built house are mass-produced already, although too often based on inefficient and badly designed models. As we already have mass-produced houses, then let us at least mass-produce these well.

Light Metals for Building.

After the war, Coventry alone will have several large factories which will no longer be required, but there will still be the plant, skilled labour and organisation. Why not switch these factories over to the production of houses using the light, efficient and beautiful materials like steel, duralumin and light alloys which are stressed to such efficiency and economy in aircraft? Another material which should have extensive uses is pre-cast concrete, and a scheme is being worked out at the moment by the Cement and Concrete Association for a grid of members, each 4 in. by 2 in. at 1-ft. 6-in. centres, to be made in units up to 12 ft. by 12 ft. These units would form walls and roofs, and would form a very good frame to which various exterior and interior facing materials could be applied.

If, as I believe, the solution to the post-war housing shortage lies along some of these lines, then it may be necessary to make some alterations to the building trade organisations. By this I mean that a new trade of, say, fitter or assembler will be required, and concreting should also be recognised as a proper trade.

In order that the new forms of construction may be ready when the call comes, it is necessary to set up now a committee of architects who are facing these problems, representatives from aircraft works (both on the design and organisation sides) and members of the Building Research Station who have been experimenting for so long with new materials. This committee can decide the design and construction, accommodation to be provided in each house—say, three-bed parlour type as a basis—and many other points which will enable building to commence almost immediately after the termination of hostilities.

Nationalisation of Land.

The wider aspects of building call for much alteration from the administrative and executive points of view. First, the all-important question of land: everyone who appreciates the eternal and immortal qualities of the earth in contrast to man's ephemeral existence can see the immense amount of evil which can be caused by selfish speculation. For the good of the community private interests must be subordinated to public ones. The only solution for Great Britain now lies in some form of nationalisation of all land. This could be achieved in a number of ways, one solution being to convert all freehold property into leasehold to the State with a 99-year lease, which would at least give some control over building. To see that this control is well used, every county, city and town should have its own architect, who should be responsible for town planning, approval of deposited plans and administering building by-laws, which should be issued by the R.I.B.A.

The work of the architect and planner, and the engineer, must go hand in hand, but the particular spheres in which each can best serve the community should be clearly defined. I believe that all layouts of building sites and streets, and the design of buildings, should be under the direct control of architects who are town planners. It takes eight years to train such people in our universities, and at the present time the country cannot afford to misuse them.

It is unfortunate that in so many local authorities there is no architect in control, and I hope that the new Ministry of Works and Buildings will interest itself in this vital matter.

For the building industry of the future I visualise the setting up of a new type of educational centre, based on the model conceived by Professor Gropius in his *Bauhaus*, now so tragically debased by the Nazi. This would be a combination of technical school, architectural school and town-planning department, in which students would learn to handle and work on materials in the early years and would be sifted out in accordance with their talents and ability, the most gifted eventually becoming planners of the future environment. These centres could perhaps await the coming of peace, but in the meantime we must prepare for an immediate housing programme and for this train large numbers of young men of pre-military age in the new technical requirements of building.

An effort must be made to make the building trades more popular, because at the present there is a big decline in numbers attending technical colleges, and other industries often appear to offer an easier and more certain living.

I have outlined briefly a possible solution to the problem of building reconstruction, and endeavoured to relate it to the social and physical planning which must be commenced now if we are to have a country fit for heroes to live in. The Government, in setting up a new Ministry of Works and Buildings, under a brilliant and energetic Minister, has shown itself fully alive to the vital importance of the problems. It has an opportunity before it that has never occurred before, born, it is true, out of a catastrophe of colossal magnitude, but an opportunity to be grasped with both hands, and which may be the means of making this country we love once more "a jewel set in a silver sea."

A City Centre for Coventry.

I would like to add a few words on the significance of the recent bombing of Coventry. Many citizens had despaired of the possibility of having a dignified and fitting city centre. High land values, the delays involved by town-planning legislation, together with a lack of plan for the central area, made it seem impossible. Now, in a night, all this is changed.

Instead of a tightly packed mass of buildings of every description, there are many burnt-out ruins and much desolation, débris and ashes; but, like a forest fire, the present evil may bring forth greater riches and beauty. Over a year and a half ago I prepared a civic centre scheme which, grouped round the two noble mediæval churches, embodied all the public buildings in one ordered conception, at the same time suggesting a central park space which is so badly needed. In one night the site is largely cleared ready for this regeneration. It rests but with the fortunes of war and the desires of a great people to see it accomplished.

A discussion followed, in which Mr. Harold Sanderson, Mr. Charles Elcock, Colonel F. M. Smith, and Mr. F. E. Towndrow, took part. Votes of thanks were passed to the lecturer and the chairman.

OFFICIAL NOTIFICATIONS

Insurance for Grouped Motor Goods Vehicles.

The Secretary to the Ministry of Transport makes the following announcement :—

Since September, 1939, insurers have agreed for periods of three months at a time to continue and extend, without any general increase in rates, existing policies for "grouped" motor goods vehicles, although the Emergency Powers (Road Vehicles and Drivers) Order, 1939, removed certain restrictions on "A," "B" and "C" licences under the Road and Rail Traffic Act, 1933. This arrangement was extended until November 30, 1940, and the Minister is glad to announce that the insurers have now agreed to extend the arrangement until February 28, 1941.

Timber Control: Drying Kilns.

Firms owning and operating drying kilns who are in a position to quote Timber Control for kiln drying home-grown softwoods are asked to communicate immediately with : Ministry of Supply, Timber Control Department, Branch 6, Department III, Clifton Down Hotel, Bristol, 8, giving the following information : (1) Number and type of kilns available; (2) capacity in cubic feet; and (3) quotation giving range of prices per cubic foot for kiln drying home-grown softwoods down to a moisture content of 18 per cent. in thickness from ½ in. to 4 in. These prices should include the following services : Unloading timber from road or rail vehicles; kiln drying to 18 per cent. moisture content; and reloading to road or rail vehicles.

EMERGENCY INQUIRY BUREAU

Questions from readers arising out of War-time difficulties and recent Emergency legislation will be answered by a special staff of contributors. Questions, which should be addressed to the Editor, should be accompanied by a stamped addressed envelope.

Air Raid Damage and Professional Fees.

SIR,—*I have been called in by a client to "vet" his house following upon damage by enemy bombing. He is under the impression that fees for this work are met by the local authority. Is this so?* ARCHITECT.

No. Any such fees must be met by the householder and do not rank for compensation. Probably he is confusing the work of preparing a schedule of damage with the preparation of plans for rebuilding. Fees for this latter work are recoverable.

"The Gentleman."

"A very gentlemanly way of carrying builder's tools," commented Mr. Justice Wrottesley in the High Court when told by a labourer that he had them in an attaché case.

"They were the foreman's tools," counsel explained.—*News Chronicle.*

THE PURCHASE TAX

THE Secretaries' Office, Customs House, issue the following rulings on Purchase Tax matters :—

1. SALE OF AN ARTICLE IN PARTS.—Inquiries have been received whether it is possible for registered firms to avoid liability to tax on certain classes of goods by selling them separately in parts. A purchase is defined by Section 41 of the Finance (No. 2) Act, 1940, as including not merely contracts of sale, but "any transaction in whatsoever form expressed in so far as its effect is in substance the same as the effect of a contract of sale." Accordingly, when a chargeable article is sold in parts, either together or separately, liability to tax is incurred in the same way as if the complete article were being sold; and firms concerned will be held accountable for tax on their sales in such cases in accordance with the provisions of the law.

2. PART PAYMENT IN KIND.—In the same way, where an article is supplied and payment is accepted partly in kind the transaction is a sale for Purchase Tax purposes and (unless the sale is made to another registered person buying the goods as stock or material) tax is payable on the full wholesale value of the article. This applies whether the article supplied is new or reconditioned, and irrespective of the form which the contract or transaction takes if its effect is as described above.

The following decisions regarding the liability to tax of certain articles are supplementary to those already given in Notice No. 78 :—

CLASS 2 (TEXTILES, ETC.).—Not chargeable : Felt backed with or interlined with jute fabric.

CLASS 6 (FURNITURE).—Chargeable at the rate of 33⅓ per cent. : Paper blinds of all descriptions.

IN PARLIAMENT

Salvage of Furniture.

MR. PARKER asked the Minister of Health whether he was aware that many local authorities were refusing to salvage household effects, but limited the activities of their demolition squads to saving life; that, as a result, much furniture was damaged by the elements; and whether he could make it clear that local authorities should salvage household effects where practicable.

MR. M. MACDONALD said he had consulted the Minister of Home Security regarding this question. The functions of rescue parties (in the London Region, known as rescue, shoring and demolition parties) were not precisely as implied. In addition to the extrication of casualties, the parties might have to undertake temporary work to prevent damage to the public from the collapse of buildings. These duties must take precedence over any others, but subject to this prior obligation the Minister of Home Security had requested local authorities, in a circular of August 3, to give all possible assistance in removing and protecting furniture recovered from damaged houses. He was not aware that local authorities were refusing to undertake this work, though he understood that some local authorities had been more successful than others in making arrangements for removal and storage.

Repairing Air Raid Damage.

MR. EDEN, Secretary of State for War, in answer to Mr. De La Bere, said that the Army were always prepared to do what they could to assist the civil authorities in repairing air raid damage, and were now arranging, at the request of the Ministry of Works and Buildings, for the release from the Army, for six months, of 3,000 building operatives.

MR. CROWDER asked the Minister of Health whether he was aware that certain landlords were now drafting agreements insisting that tenants should make themselves responsible for the replacement of broken glass damaged by any action other than that of the landlords; and whether he would investigate the effect on housing of claims of this nature.

MR. MACDONALD said that any such provision in relation to glass broken as the result of enemy action would be ineffective because : (i) the effect of section 1 (1) of the Landlord and Tenant (War Damage) Act, 1939, was that any obligation to repair in any lease or tenancy agreement did not extend to the imposition of any liability to make good any war damage; and (ii) under section 21 of the same Act it was laid down that the provisions of the Act should have effect in relation to any war damage notwithstanding any contract to the contrary made before that damage occurred.

Bunks in Shelters.

MR. W. ROBERTS asked the Home Secretary how many bunks had now been installed in public shelters in the London area.

MISS WILKINSON said that up to November 27, bunks for 109,200 persons had been installed in the London area. Bunks for 208,500 persons had been delivered to local authorities by that date, and erection was proceeding rapidly.

MR. SORENSEN asked the Home Secretary whether he would establish standards of at least 30 in. vertical space between bunks installed in public shelters, together with frequent spaces between each range of shelter; whether the distribution of medicinal tablets or pastilles was now general; and what steps had been taken respecting the heating of shelters.

MISS WILKINSON said that it would be impracticable to attempt to increase the vertical spacing of the three-tier bunks ordered and now being delivered; and the dimensions of shelters would in fact prevent it in many cases. Lateral spacing of at least 2 ft. was prescribed. The issue of medicines and tablets as part of the scheduled equipment of medical-aid posts in large public air-raid shelters in London was well in hand. In large shelters which were well filled, heating had been found by experience not to be necessary, but measures were in hand for providing the necessary amount of heating in the brick surface shelters and in trench shelters.

MR. BROOKE asked the Home Secretary whether he was aware that the simplest way to fix bunks in shelters was right against the wall, but that when this was done against walls that got wet in damp weather the bunks would become unusable and be wasted, because it would be impossible to keep the bedding dry; and had he issued, or would he issue, a specific warning on this subject to authorities responsible for the fixing of bunks.

MISS WILKINSON said that in bunking public shelters, special attention was being given to dampness, and very damp shelters were not to be bunked at all. Proposals which were now being circulated would, if put into operation by the local authorities, do much to reduce dampness in shelters.

A.R.P. SCHEMES

LONDON.

ERITH.—T.C. received M.H. consent to borrowing £3,850 for domestic shelters.—B.S. to invite professional engineers to prepare and submit plans for spacious underground shelters providing accommodation for 4,000 people, and, alternatively, shelter for 5,000 people.—Franklin and Co., W. V. Holmes, W. F. Blay, Ltd., and J. Bennett and Sons, approved for 469 domestic shelters.—Council agreed to further order for number of bunks placed with Ram and Austin, at 37s. per set of three, excluding fittings.—B.S. to purchase 1,500 pre-cast concrete units from Trussed Concrete Steel Co., Ltd., at £737 10s., for roofing brick and concrete domestic shelters.—Council recommend contract be divided between R. Hopkins and Son, Gravesend, Walter Smith (Public Works), Ltd., Riverhead, H. G. Cooper, Ltd., London, and Allsites, Ltd., London, for 30 shelters.—Plans passed: shelter, 117-119, High-st., Boots Pure Drug Co.

PROVINCIAL.

BARNARD CASTLE. — U.D.C. approved schemes for seven shelters for the Church of England school, three for Council school and two for the Catholic school, and also plans for 10 proposed public shelters. Plans by H. D. Stanworth, S.—R.D.C. received approval for shelters at Cockfield and Evenwood. Plans by T. P. Lang, S.

BILLINGHAM-ON-TEES.—C. H. Webster, Billingham-on-Tees, accepted at £2,570, for 138 domestic surface shelters for U.D.C. C. J. H. Hill, S., prepared plans.

BOLLINGTON.—U.D.C. propose communal domestic shelters. Plans by C. R. Smith, S.

BOOTLE.—T.C. to erect three wardens' posts, at £2,138. Plans by W. A. Harrison, B.E.

COLCHESTER. — E.C. recommend that, subject to approval of B. of E., school shelters be lighted by electricity at Borough Electrical Engineer's, of £702.

COLNE.—T.C. approved plans for domestic surface shelters. Plans by T. H. Hartley, B.S.

DARLINGTON.—Shelter proposed outside hospital. Plans by E. Minors, B.S.—E.C. propose central kitchen. Plans by B.S.

DURHAM.—R.D.C. to build 46 brick surface shelters, adapt a further 183 houses for shelters, and received consent to build 39 communal shelters, at £4,116. Plans by S. Dodds, S.

GOSFORTH. — Contracts for shelters at Gosforth let to W. Jackson, T. E. Ridley, F. Hope, and W. Smith, all of Gosforth.

LANCASHIRE.—C.C. has decided to instal electric light in all public shelters.—E.C. to erect shelters at Woodplumton and Lea.

LANCASTER.—City Council accepted the following tenders: Five shelters at £187 18s. 7d. each, R. L. Dilworth, Ltd.; five shelters at £180 1s. 10d. each, A. O. Thoms; five shelters at £180 0s. 2d. each, R. Thompson and Morris; conversion of basement into shelter, Nicholson and Wright, £183 5s. 10d. All contractors of Lancaster.—T.C. approved plans for adaptation of 24 passages as shelters for 411 persons, 470 cellars to accommodate 5,640, 348 surface shelters for 15,492. Plans by F. Hill, M.I.C.E., City S.

LANCHESTER.—R.D.C. to build communal shelters by contract. Plans by T. Clarkson, S.

MANCHESTER.—T.C. recommend following: Covering roof over telephone operators' room in town hall, £150; construction of school shelters, £24,000; additional shelter accommodation for staff at hospitals; £1,276 with regard to provision of sleeping bunks in shelters for resident staff at various hospitals and institutions; sleeping accommodation for male and female mental patients and additional shelter accommodation at Park House; shelter accommodation at a sanatorium for staff resident; and structural air-raid precautions at Langho, and Dr. Garrett's Home, at £9,150.

MELTON MOWBRAY. — U.D.C. to erect public shelters for 300 and domestic communal shelters. Plans by W. H. Jarvis, S., Egerton Lodge.

MIDDLESBROUGH. — A.R.P. Committee to concrete-line Anderson shelters.—For shelter in Meath-st., for Knobbs and Featherstone, contract placed with Bray and Eltringham, Aire-st., Middlesbrough.

NEWCASTLE-UNDER-LYME. — T.C. propose conversion of basements to public shelters.—Contract at £187 placed with Madew and Wardle, for shelter at cemetery.

NORTHANTS.—E.C. propose school shelters at Wollaston and at Daventry Grammar school.

PENSBY.—Cheshire E.C. to erect school shelters.

RUNCORN.—R.D.C. to erect 38 communal surface shelters at Frodsham. Plans by S. J. King, S., Castle Park, Frodsham.

SHEFFIELD.—Tenders accepted by T.C. for shelters: Green Bros., G. Handley, Ltd., G. R. Parkin and Son, all of Sheffield. Price accepted is £28 10s. 9d. per shelter (plus £3 15s. 2d. for blast wall where necessary) for type 1, and £29 14s. 10d. for type 2.

SOUTH KESTEVEN.—R.D.C. to erect communal shelters in 10 parishes.

STOCKTON-ON-TEES. — R.D.C. to build shelters at five villages. G. W. T. Brown, S., prepared plans.

STRETFORD.—B.S. reported approval of C.C. to erection of shelters at Longford Bridge depot.—Plans passed: shelter, D. Anderson and Son, Ltd.

UTTOXETER.—U.D.C. to erect two 48-person shelters. Plans by S. S. Proud, S.

SCOTLAND.

DUMBARTON.—T.C. to erect shelters at fire station. W. D. Murdoch, Burgh Architect.

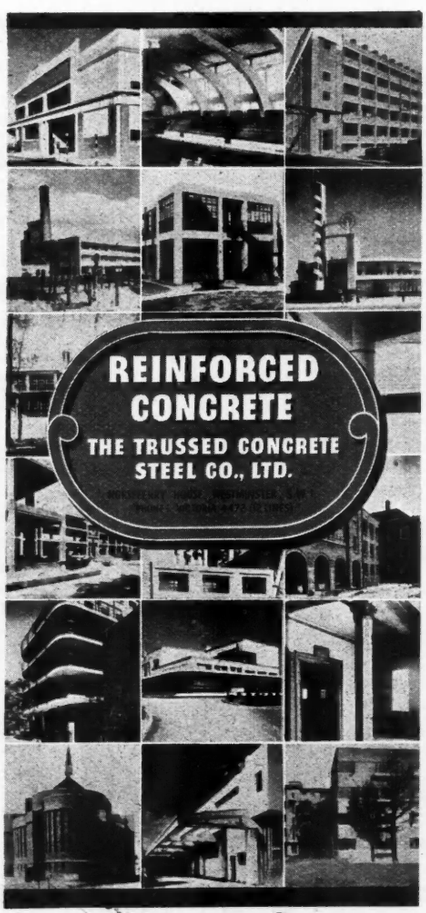
DUNDEE.—Corporation intend to provide protection at all schools. D. Mackay, architect, Municipal Buildings.

GLASGOW.—Plans prepared by City E., for shelters at Landressor-st. and MacKeith-rd.

GREENOCK. — Nineteen shelters to be erected at various sites from plans by David Henderson, Housing Architect. Contractors are John Train and Co., Ltd., Glasgow.

MONTROSE.—T.C. to erect shelters. Plans by D. Maxwell, Burgh Architect.

STIRLING.—Dean of Guild Court approved plans for Stirlingshire and Clackmannanshire A.R.P. Joint Authority for cleansing station at Stirling. Architect, J. Clark Fyfe, Stirling.



4-488A.

CURRENT AND PROPOSED BUILDING WORK*

Ashton-in-Makerfield. — Sanction being sought by U.D.C. for 76 timberless houses. Plans by A. K. Dennis, S.

Atcham.—Pearl Assurance Co., Ltd., London, W.C.1, proposing to convert premises for use as offices.

Barnard Castle.—R.D.C. to build premises at Cockfield, Woodland, and Middleton-in-Teesdale for housing of chlorination plants. No contracts let.—R.D.C. to carry out repairs to nine houses. No contracts let. Plans by H. A. Smith, 43, Galgate.

Barnsley.—Barnsley British Co-operative Society, Ltd., Wellington-st., propose extensions to butchery dept.

Bootle.—T.C. propose additions to Guildhall. Plans by W. A. Harrison, B.E.

Bootle.—M.H. consented to borrowing by E.C. of £11,093 for grant to managers of St. Joan's new senior school.

Caernarvonshire. — Rivers Catchment Board propose improvements to Croesor, Geirch, Tudweiling and Dwyryd Rivers, at £1,850.

Caterham and Warlingham. — U.D.C. approved temporary structure to provide accommodation for eight cars, at £100.

Chesterfield.—T.C. propose reinstatement of condemned houses.

Darlaston. — Staffordshire C.C. propose structural alterations to schools for conversion into day nursery, at £500.

Darlington.—E.C. to adapt school as central kitchen.

Durham.—M.H. consented to borrowing of £5,930 by C.C. for additions to Durham Girls' County School. Plans by F. Willey, 34, Old Elvet, Durham. — B. of E. to recommend M.H. to issue fresh consent to borrow £8,250 for additions to a secondary school, for C.C.—Tenders to be obtained for renovations at Chester-le-Street offices, at £225. Plans by W. J. Merrett, C.S., 43, Old Elvet, Durham.

Hinckley.—U.D.C. approved: Basement shelters, Earl Shilton, for F. King; shelters, dye works, Hinckley, A. E. Hawley and Co., Ltd.

Hyde. — Justices approved: Structural alterations to "Wellington Hotel," for R. Chadderton.

Irthlingborough. — U.D.C. approved plans for fire station for J. K. Perkins, Ltd.

Lancaster.—T.C. propose repairs and redecoration of council houses, and conversion of farmhouse into two houses.

Lancaster.—T.C. passed plans for laboratory, Caton-rd., for Standfast Printers and Dyers, Ltd.

Liverpool.—T.C. received M.H. permission to borrowing to extent of £25.110 for draining and sewering of a factory site.—Application to be made to M.H. for sanction to borrowing £40,000 for completing erection of 180 flats.

Manchester.—T.C. recommend strengthening a bridge over the L.M.S. railway, at £140, and another bridge, at £120.

Meltham.—U.D.C. to prepare plans for fire station. Plans by S. C Drabble, S.

Middlesbrough.—Tenders to be obtained for repairing school No. 12. Plans by F. Mellor, Education Architect.

Millom. — North-Eastern Housing Assoc., Metrovick House, Newcastle-on-Tyne, to build roads and sewers for 66 houses. No contracts let. Plans by J. S. Stout, 36, Lowther-st., Whitehaven.

Newcastle-under-Lyme. — T.C. propose restoration of stonework and repairs to cemetery church and chapel.—A. Cotton, B.S., to prepare scheme for alterations to house for auxiliary fire services.—T.C. approved plans: Warehouse extensions, R. Howle and Sons.—T.C. to repair and redecorate 30 council houses, at £450.—T.C. propose additional accommodation at Turkish Baths.

Portsmouth.—T.C. approved: J. Evans and Son (Portsmouth), Ltd., three workshops.

Ripponden.—U.D.C. approved: Structural alterations to "White Swan," for S. Webster and Sons, Ltd., 57, Northgate, Halifax.

Rotherham.—T.C. propose alterations and additions to auxiliary fire service stations. Plans by V. Turner, B.E.

Rugby.—Board of Management of Hospital approved £1,500 scheme for two small wards to accommodate seven patients.

Scarborough. — Plans approved for additions to hospital for Board. Architects, Jones and Rickaby, Westborough.

* See also List of Contracts Open.

Sheffield.—T.C. approved plans: Rebuilding forge for George Senior and Sons, Ltd.—T.C. propose electricity sub-stations.

Shrewsbury.—Justices approved: Structural alterations for residential quarters to "Crown" Hotel, for Pearl Assurance Co., Ltd., London, E.C.; alterations and improvements to "Lion and Pheasant" Inn, Wyle Cop, for C. N. H. Bowdler. Cost £500.

South Shields.—Hetherington and Wilson, County-cham., Westgate-rd., Newcastle-on-Tyne, prepared plans for alterations to "West End Vaults," for T. and J. Bernard. —J. H. Morton and Son, Martin's Bank-cham., Fowler-st., South Shields, architects for plating shed for Readhead and Sons.

Staffordshire.—C.C. to acquire property at Bilston for conversion into occupation centre, at £851.

Stoke-on-Trent. — T.C. approved: A. G. Hackney and Co., Ltd., office extension; North Staffs Royal Infirmary, reconstruction of part of ophthalmic dept.

Stretford.—T.C. approved: Canteen, for Fisher Renwick, Ltd.

Warrington. — T.C. propose extension of electricity sub-station.—T.C. approved: Extensions to works, Alliance Box Co., Ltd., Alliance Works, Orford-la. — Board of Management of Infirmary propose extensions.

Warwickshire. — C.C. propose structural alterations to P.A.C. institutions and hospitals. etc., at £3,500. Plans by A. C. Bunch (F.), County Architect, Warwick.

Wirksworth.—U.D.C. propose extensions to fire station.

Workington. — T.C. received sanction to borrow £55,381 for 96 houses, and £4,819 for roads and sewers. Plans by A. B. Cooper, B.E. and S.—Board of Management of Infirmary propose extensions.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender, unless stated to the contrary. The dates at the head of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained. Abbreviations: (A.) for A.R.I.B.A; B. of E. for Board of Education; B.C. for Borough Council; B.E. for Borough Engineer; B.S. for Borough Surveyor; C. for Clerk; C.B. for County Borough; C.C. for County Council; C.E. for County Engineer; C.S. for County Surveyor; D.S. for District Surveyor; E. for Engineer; E.C. for Education Committee; (F.) for F.R.I.B.A.; (L.) for L.R.I.B.A.; M.W.B. for Metropolitan Water Board; M.H. for Ministry of Health; M.T. for Ministry of Transport; P.C. for Parish Council; R.D.C. for Rural District Council; S. for Surveyor T.C. for Town Clerk and Town Council; and U.D.C. for Urban District Council.

BUILDING.

DECEMBER 13.

Chelsea B.C.—Permanent repairs to working-class dwellings at Walter House and Follett House, Lacland-pl. and Riley-st. B.E. and S.

DECEMBER 14.

Shoreham-by-Sea U.D.C.—Construction of protection walls at 269 houses. J. Dunn, S., 31, John-st.

DECEMBER 16.

Barnard Castle R.D.C.—Repairs to properties at Bowes Hill and Toft Hill; and erection of 3 buildings for water chlorination plants at Cockfield, Woodland, Middleton-in-Teesdale. H. A. Smith, Sanitary S., 43, Galgate. (2 contracts.)

Ormskirk U.D.C. — Decontamination station. S.

Southend T.C.—Brick-built annexe at main control centre and incidental works. R. G. Baxter, B.E. Dep. £1.

DECEMBER 17.

Neath R.D.C.—Fire station, extension of fire station and 3 fire stations. J. T. Jones, E., 13, Orchard-st. Dep. £1 1s.

Newton Abbot R.D.C.—Public surface shelter in Kingsteignton. S.

DECEMBER 18.

Stratford-upon-Avon T.C.—Fire station, etc. P. C. Smart, B.E. and S. Dep. £2 2s.

DECEMBER 20.

Durham R.D.C.—46 brick surface communal shelters; adaptation of 183 houses, in Framwellgate Moor area. E. and S., Byland Lodge, Hawthorn-tce. Dep. £1 1s.

Richmond (Yorks) R.D.C.—Public air raid shelters. S., 14a, Queen's-rd.

DECEMBER 21.

Bishop Auckland U.D.C.—7 domestic shelters. S.

Stafford T.C.—68 houses. W. Plant, B.E. Dep. £2 2s.

DECEMBER 23.

Southgate T.C.—Waterproofing of approx. 400 domestic steel shelters by means of concrete floor and walls. B.E. Dep. £1.

DECEMBER 28.

Newcastle-upon-Tyne T.C.—Alterations and additions, consisting of new bathroom, w.c., etc., to lodge at St. Andrew's cemetery. City E.

Ossett T.C. — Surface-type communal shelters. B.S. and E.

NO DATE.

***Grantham T.C.**—Approx. 550 communal domestic shelters. P. A. Benn, B.S.

PAINTING, ELECTRIC LIGHTING, HEATING, &c.

DECEMBER 16.

Rutlandshire C.C.—Alterations to heating apparatus in courtroom at Castle. G. Dolphin, S., Uppingham.

DECEMBER 17.

Grangegorman Mental Hospital. — Centralised steam plant, including heating, hot-water, electrical and sundry services. Vincent Kelly (F.), 87, Merrion-sq. South, Dublin. Dep. £10 10s.

Hebden Royd U.D.C.—Provision and fixing of 302 lin. yds. of cleft chestnut fencing and necessary supports on Nest estate, Mytholmroyd. H. L. Bottomley, E. and S.

Roxburghshire C.C.—Electrical work on 16 houses at St. Boswells. J. R. Hume, Acting County Clerk, Newtown St. Boswells.

JANUARY 7.

Colwyn Bay T.C.—Painting of understructure of Victoria pier (paint supplied). N. S. Jeffrey, A.M.I.C.E., B.E. and S.

NO DATE.

Cockermouth. — Painting and repairing property in Derwent-pl., The Goat; also converting two cottages into one. Miss Sanderson, 4, Sunnyside.

MATERIALS.

DECEMBER 16.

Belfast T.C. — Bitumen, etc. Acting General Manager, Corporation Transport Dept., Sandy-row.

FEDERATED EMPLOYERS'

Insurance Association Ltd.

(non-tariff)

Head Office:

8, King St., Manchester

London Office:

23, Lawrence Lane, Cheapside, London, E.C.2

All Classes of Insurance Transacted

(Except Life and Marine)

The Leading Office for

Contract Guarantee Bonds

Leeds T.C.—Builder's materials. Douglas M. Beck, Executive Officer, Central Purchasing Dept., 43, New Park-st.

DECEMBER 18.

Cumberland C.C.—Refined tar and bitumen, etc. C.S., Citadel-chams., Carlisle.

Huddersfield C.B.—Cast-iron pipes from 2-in. internal dia. to 12-in. internal dia., etc. J. P. Beveridge, Waterworks Manager, 24, Ramsden-st.

ENGINEERING, IRON AND STEEL.

DECEMBER 16.

Nottingham T.C.—Repairs in No. 1 well and other underground work at pumping station. B. W. Davies, Engineer and General Manager, Water Dept., Castle Boulevard. Dep. £1 1s.

Sligo Board of Health.—Sewerage scheme at Strandhill. N. O'Dwyer, Consulting E., 6, Burlington-rd., Dublin. Dep. £5 5s.

DECEMBER 21.

Dartmouth Corporation. — Sedimentation tanks, filter-house, 3 rapid filters in reinforced precast concrete blocks, together with other works. Rofe and Raffety, engineers, 42, Salisbury-av., Cheam. Dep. £2 2s.

DECEMBER 30.

Bethesda U.D.C.—New intake, supplying and laying about 2,138 yds. of 5-in. and 6-in. asbestos-cement pipes on mountain, and other incidental work. Henry Adams and Son, consulting engineers, 60, Queen Victoria-st., London, E.C.4. Dep. £1.

Kilkenny County Board of Health and Public Assistance.—Water supply for Johnstown and Urlingford, including intake works, laying of 7,006 yds. of mains, construction of reinforced concrete water tower and pumping station. T. Kelly, Engineer's Office, Central Hospital, Kilkenny. Dep. £5 5s.

ROAD, SEWERAGE AND WATER WORKS.

DECEMBER 16.

Colchester T.C. — Pipeline, comprising 2 203 lin. yds. 12-in. dia., 358 lin. yds. 10-in. dia. and 1,568 lin. yds. 9-in. dia. pipe. H. Collins, B.E., 3, Bank Passage. Dep. £2 2s.

Wembley T.C.—Surface-water sewer, consisting of 732 lin. yds. of pipes and tubes. Borough Treasurer. Dep. £2 2s.

DECEMBER 17.

Llanelly R.D.C.—Approx. 667 lin. yds. of 18-in. reinforced concrete tubes, 64 lin. yds. of 18-in. cast-iron pipes, 445 lin. yds. of 12-in. stoneware pipes, 229 lin. yds. of 6-in. stoneware pipes, together with manholes and appurtenant works, at Tycroes. D. C. Samuel, E., Castle-bldgs. Dep. £5 5s.

Neath R.D.C.—Laying of 12-in., 9-in., 7-in., 6-in., 5-in. and 4-in. water mains, etc., in 2 parishes. J. T. Jones, E., 13, Orchard-st. Dep. £5.

DECEMBER 18.

North-Eastern Housing Assn.—Roads and sewers to serve 66 houses at Dumb-la., Millom. J. S. Stout, architect, 36, Lowther-st., Whitehaven. Dep. £2 2s.

DECEMBER 19.

Staffs C.C.—Repair and reconstruction of retaining walls on Leek-Macclesfield road at Barnswood. C.S., Stafford. Dep. £2 2s.

DECEMBER 20.

Stockport C.B.—Cutting about 1,000 yds. of 7-ft. by 7-ft. tunnel in red sandstone rock in various parts. Wm. F. Gardner, B.S.

DECEMBER 23.

Ely R.D.C.—6-in. drain from Tower-rd. to Brook-rd., Sutton; 6-in. drain from council houses, Ely-rd., for a distance of 450 ft.; 15-in. and 18-in. drains from Mepal-rd., for distance of 575 ft.; septic tank; 9-in. overflow drain from new septic tank, for distance of 600 ft. D. Denton-Smith, Acting Housing Surveyor, 40, Regent-st., Cambridge. Dep. £2 2s.

Public Appointments.

DECEMBER 23.

***South Bucks A.R.P. Joint Committee.**—Temporary technical assistant. J. H. Warren, Clerk, Town Hall, Slough.

DECEMBER 27.

***Essex C.C.**—Building Assistant in Land Agent's Dept. L. G. Lewis, Deputy C., Chelmsford.

NO DATE.

***Poplar B.C.**—Temporary Building Assistants and Architectural Assistants. S. A. Findlay, B.E. and S.

***War Dept.**—Temporary Civilian Quantity Surveyors. C.R.E., North Wilts District, Wood-rd., Larkhill.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st DECEMBER, 1940

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors]

	Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.
Aberavon	1/9½	1/4¾	Clitheroe	1/9½	1/4¾	Isle of Thanet	1/7½	1/3¼	Saxmundham	1/6	1/2
Aberdare	1/9½	1/4¾	Cobham (Surrey)	1/8½	1/4	Isle of Wight	1/7	1/2¾	Scarborough	1/9	1/4½
Abergavenny	1/9½	1/4¾	Colchester	1/9	1/4¼	Keighley	1/9½	1/4¾	Scunthorpe	1/9½	1/4¾
Abingdon	1/8	1/3½	Colwyn Bay	1/8½	1/4	Kenilworth	1/9½	1/4¾	Selby	1/9½	1/4¾
Accrington	1/9½	1/4¾	Congleton	1/9	1/4¼	Kettering	1/9½	1/4¾	Sevenoaks	1/8	1/3½
Aldeburgh	1/6	1/2	Coventry	1/9½	1/4¾	Kidderminster	1/9	1/4¼	Sheerness	1/7½	1/3½
Aldershot	1/8	1/3½	Cranbrook	1/7½	1/3¼	King's Lynn	1/7½	1/3¼	Sheffield	1/9½	1/4¾
Alfreton	1/9½	1/4¾	Cranleigh	1/7½	1/3¼	Kirkham	1/9½	1/4¾	Shipley	1/9½	1/4¾
Alnwick	1/9	1/4¼	Crawley	1/7½	1/3¼	Knowle	1/9	1/4¼	Shoeburyness	1/9	1/4¼
Altrincham	1/9½	1/4¾	Crewe	1/9	1/4½	Lancaster	1/9½	1/4¾	Shoreham	1/8½	1/4
Amble	1/9	1/4¼	Cromer	1/6½	1/2½	Leamington	1/9½	1/4¾	Shrewsbury	1/9	1/4½
Amersham	1/8	1/3½	Crowborough	1/7½	1/3¾	Leatherhead	1/8½	1/4	Sittingbourne	1/7½	1/3¼
Ammanford	1/9½	1/4¾	Cuckfield	1/7½	1/3¼	Leeds	1/9½	1/4¾	Skegness	1/8½	1/4
Andover	1/7½	1/3¾	Darlington	1/9½	1/4¾	Leicester	1/9½	1/4¾	Sleaford	1/8	1/3½
Ardingley	1/7½	1/3¼	Darwen	1/9½	1/4¾	Leighton Buzzard	1/6½	1/2½	Slough	1/8½	1/4
Arundel	1/7½	1/3¼	Daventry	1/8	1/3½	Letchworth	1/8½	1/4	Southampton	1/9	1/4½
Ascot	1/7½	1/3¼	Deal	1/7½	1/3¼	Lewes	1/7½	1/3¼	Southend-on-Sea	1/9	1/4½
Ashby-de-la-Zouch	1/9½	1/4¾	Denbigh	1/8½	1/4	Lichfield	1/8½	1/4	Southport	1/9½	1/4¾
Ashford (Kent)	1/7½	1/3¼	Derby	1/9½	1/4¾	Lincoln	1/9½	1/4¾	South Shields	1/9½	1/4¾
Ashford (Middlesex)	1/9½	1/4¾	Devizes	1/6½	1/2½	Littlehampton	1/7½	1/3¼	Spalding	1/7½	1/3¼
Ashington	1/9	1/4¼	Dewsbury	1/9½	1/4¾	Liverpool	†§1/11	¶	Stafford	1/9	1/4¼
Ashtead	1/9½	1/4¾	Didcot	1/7½	1/3¼	Llandudno	1/8½	1/4	Staines	1/8½	1/4
Ashton-under-Lyme	1/9½	1/4¾	Diss	1/6	1/2	Llanelly	1/9½	1/4¾	Stamford	1/8½	1/4
Aylesbury	1/7½	1/3¼	Doncaster	1/9½	1/4¾	London—			Stevenage	1/8½	1/4
Aylsham	1/6½	1/2½	Dorchester	1/7	1/2¾	12m. radius	*1/11	1/5¾	Stockport	1/9½	1/4¾
Bagshot	1/7½	1/3¼	Dorking	1/8	1/3½	12-15 m. radius	*1/10½	1/5¾	Stockton-on-Tees	1/9½	1/4¾
Banbury	1/7½	1/3¼	Dover	1/7½	1/3¼	Long Eaton	1/9½	1/4¾	Stoke-on-Trent	1/9½	1/4¾
Barnsley	1/9½	1/4¾	Dovercourt	1/7½	1/3¼	Longton	1/9½	1/4¾	Stourbridge	1/9½	1/4¾
Barnstaple	1/7½	1/3¼	Driffield	1/8	1/3½	Loughborough	1/9½	1/4¾	Stourport	1/9	1/4¼
Barrow-in-Furness	1/9½	1/4¾	Droitwich	1/9	1/4¼	Louth	1/8	1/3½	Stowmarket	1/6½	1/2½
Barry	1/9½	1/4¾	Dudley	1/9½	1/4¾	Lowestoft	1/7½	1/3¼	Stratford-on-Avon	1/8½	1/4
Basingstoke	1/7½	1/3¼	Dunstable	1/8	1/3½	Luton	1/9	1/4¼	Stroud	1/8½	1/4
Bath	1/9	1/4¼	Durham City	1/9½	1/4¾	Macclesfield	1/9	1/4¼	Sunderland	1/9½	1/4¾
Batley	1/9½	1/4¾	Eastbourne	1/8½	1/4	Maidenhead	1/8½	1/4	Sutton Coldfield	1/9½	1/4¾
Beaconsfield	1/8	1/3½	E. Glam. (Mon. Val.)	1/9½	1/4¾	Maidstone	1/8	1/3½	Swaffham	1/6	1/2
Beccles	1/6	1/2	East Grinstead	1/7½	1/3¼	Malvern	1/8	1/3½	Swanage	1/7½	1/3¼
Bedford	1/9	1/4¼	Edenbridge	1/7½	1/3¼	Manchester	1/9½	1/4¾	Swansea	1/9½	1/4¾
Berkhamsted	1/7½	1/3¼	Ely	1/6½	1/2½	Manningtree	1/6½	1/2½	Swindon	1/8	1/3½
Berwick	1/9	1/4¼	Epping	1/9½	1/4¾	Mansfield	1/9½	1/4¾	Tamworth	1/9	1/4½
Beverley	1/9½	1/4¾	Exeter	1/9	1/4¼	March	1/6½	1/2½	Taunton	1/8	1/3½
Bexhill-on-Sea	1/8	1/3½	Exmouth	1/8	1/3½	Margate	1/7½	1/3¼	Tenterden	1/7½	1/3¼
Bideford	1/7½	1/3¼	Fakenham	1/6½	1/2½	Market Harborough	1/8½	1/4	Thames Haven	1/9½	1/4¾
Biggleswade	1/7½	1/3¼	Falmouth	1/8	1/3½	Matlock	1/8	1/3½	Thetford	1/7	1/2¾
Billericay	1/7	1/2¾	Fareham	1/8½	1/4	Melton Constable	1/6	1/2	Thorpe Bay	1/9	1/4¼
Birchington	1/7½	1/3¼	Faversham	1/7½	1/3¼	Melton Mowbray	1/8½	1/4	Todmorden	1/9½	1/4¾
Birkenhead	‡§1/11	¶	Felixstowe	1/8½	1/4	Merthyr	1/9½	1/4¾	Tonbridge	1/8	1/3½
Birmingham	†1/9½	†1/4¾	Filey	1/8	1/3½	Middlesbrough	1/9½	1/4¾	Torquay	1/9	1/4¼
Bishop Auckland	1/9½	1/4¾	Fleetwood	1/9½	1/4¾	Middleton	1/9½	1/4¾	Totnes	1/7½	1/3¼
Bishops Stortford	1/8½	1/4	Flint	1/9½	1/4¾	Middlewich	1/9	1/4¼	Trowbridge	1/6½	1/2½
Blackburn	1/9½	1/4¾	Folkestone	1/7½	1/3¼	Milford Haven	1/8	1/3½	Truro	1/7	1/2¾
Blackpool	1/9½	1/4¾	Frinton-on-Sea	1/7½	1/3¼	Morecambe	1/9½	1/4¾	Tunbridge Wells	1/8	1/3½
Blyth	1/9½	1/4¾	Frome	1/6½	1/2½	Morley	1/9½	1/4¾	Uppingham	1/8	1/3½
Bognor Regis	1/7½	1/2¼	Gainsborough	1/8½	1/4	Mundesley	1/6½	1/2½	Uttoxeter	1/8	1/3½
Bolton	1/9½	1/4¾	Gateshead	1/9½	1/4¾	Nantwich	1/9	1/4¼	Wakefield	1/9½	1/4¾
Bournemouth	1/8½	1/4	Gillingham (Kent)	1/8½	1/4	Nelson	1/9½	1/4¾	Walsall	1/9½	1/4¾
Bracknell	1/7½	1/3¼	Glossop	1/9½	1/4¾	Newark-on-Trent	1/9	1/4¼	Walsden	1/9½	1/4¾
Bradford	1/9½	1/4¾	Gloucester	1/9	1/4¼	Newbury	1/7½	1/3¼	Walton-on-Naze	1/7½	1/3¼
Bradford-on-Avon	1/6½	1/2½	Godalming	1/7½	1/3¼	Newcastle-on-Tyne	1/9½	1/4¾	Ware	1/9	1/4¼
Braintree	1/7½	1/3¼	Goole	1/9½	1/4¾	Newcastle-u.-Lyme	1/9½	1/4¾	Warminster	1/6½	1/2½
Brentwood	1/9	1/4¼	Gosport	1/9	1/4¼	New Forest	1/7½	1/3¼	Warrington	1/9½	1/4¾
Bridgwater	1/8	1/3½	Grantham	1/8½	1/4	Newmarket	1/7½	1/3¼	Warwick	1/9½	1/4¾
Bridlington	1/9	1/4¼	Gravesend	1/9	1/4¼	Newport, Mon.	1/9½	1/4¾	Wellingborough	1/9	1/4¼
Brighouse	1/9½	1/4¾	Great Yarmouth	1/7½	1/3¼	Newport Pagnell	1/7½	1/3¼	Welwyn	1/8½	1/4
Brighton	1/8½	1/4	Grimsby	1/9½	1/4¾	Northampton	1/9½	1/4¾	Welwyn Gar. City	1/9½	1/4¾
Bristol	1/9½	1/4¾	Guildford	1/7½	1/3¼	Norwich	1/9½	1/4¾	Wells (Norfolk)	1/6	1/2
Broadstairs	1/7½	1/3¼	Guisborough	1/8	1/3½	Nottingham	1/9½	1/4¾	West Bromwich	1/9½	1/4¾
Bromsgrove	1/9	1/4¼	Halifax	1/9½	1/4¾	Nuneaton	1/9½	1/4¾	Westcliff-on-Sea	1/9	1/4¼
Buckley	1/9½	1/4¾	Hanley	1/9½	1/4¾	Oakham	1/8	1/3½	Weston-super-Mare	1/8½	1/4
Bungay	1/5½	1/1¾	Harpenden	1/8½	1/4	Oldham	1/9½	1/4¾	Weybridge	1/8½	1/4
Burnham-on-Crouch	1/6	1/2	Harrogate	1/9½	1/4¾	Ormskirk	1/9½	1/4¾	Weymouth	1/7½	1/3¼
Burnley	1/9½	1/4¾	Hartlepools	1/9½	1/4¾	Oxford	1/9	1/4¼	Whitby	1/8½	1/4
Burslem	1/9½	1/4¾	Harwich	1/7½	1/3¼	Oxted	1/8	1/3½	Whitstable	1/7½	1/3¼
Burton-on-Trent	1/9½	1/4¾	Haslemere	1/7½	1/3¼	Paignton	1/9	1/4¼	Widnes	1/9½	1/4¾
Bury	1/9½	1/4¾	Hastings	1/7½	1/3¼	Peterborough	1/9	1/4¼	Wigan	1/9½	1/4¾
Bury St. Edmunds	1/7	1/2¾	Hatfield	1/9	1/4¼	Plymouth	1/9½	1/4¾	Wigton	1/8	1/3½
Buxton	1/9	1/4¼	Haywards Heath	1/7½	1/3¼	Pontefract	1/9½	1/4¾	Willington	1/9½	1/4¾
Byfleet	1/8	1/3½	Hednesford	1/9	1/4¼	Pontypridd	1/9½	1/4¾	Wilmslow	1/9½	1/4¾
Cambridge	1/9½	1/4¾	Hemel Hempstead	1/8½	1/4	Port Talbot	1/9½	1/4¾	Winchester	1/8	1/3½
Canterbury	1/7½	1/3¼	Henley-on-Thames	1/7½	1/3¼	Portsmouth	1/9	1/4¼	Windermere	1/8	1/3½
Cardiff	1/9½	1/4¾	Hereford	1/7½	1/3¼	Preston	1/9½	1/4¾	Windsor	1/8½	1/4
Carlisle	1/9½	1/4¾	Herne Bay	1/7½	1/3¼	Pulborough	1/7½	1/3¼	Wisbech	1/7	1/2¾
Carnforth	1/9½	1/4¾	Hertford	1/9	1/4¼	Ramsgate	1/7½	1/3¼	Witham	1/7½	1/3¼
Castleford	1/9½	1/4¾	Heysham	1/9½	1/4¾	Reading	1/9	1/4¼	Woking	1/8	1/3½
Caterham	1/9½	1/4¾	Hitchin	1/8½	1/4	Redditch	1/9	1/4¼	Wokingham	1/7½	1/3¼
Chard	1/6½	1/2¾	Hoddesdon	1/9	1/4¼	Redhill	1/8	1/3½	Wolverhampton	1/9½	1/4¾
Chatham	1/8½	1/4	Holt (Norfolk)	1/6	1/2	Ripon	1/8	1/3½	Woodbridge	1/7	1/2¾
Chelmsford	1/9	1/4¼	Horley	1/7½	1/3¼	Rochdale	1/9½	1/4¾	Worcester	1/9	1/4¼
Cheltenham	1/8½	1/4	Horsham	1/7½	1/3¼	Rochester	1/8½	1/4	Workington	1/8	1/3½
Chepstow	1/9	1/4¼	Horwich	1/9½	1/4¾	Rugby	1/9½	1/4¾	Worksop	1/9	1/4¼
Chertsey	1/8½	1/4	Huddersfield	1/9½	1/4¾	St. Albans	1/9	1/4¼	Worthing	1/7½	1/3¼
Chester	1/9½	1/4¾	Hull	1/9½	1/4¾	St. Helens	1/9½	1/4¾	Wrexham	1/9	1/4¼
Chesterfield	1/9½	1/4¾	Hunstanton	1/6½	1/2½	St. Neots	1/7	1/2¾	Wroxham	1/7	1/2¾
Chichester	1/7½	1/3¼	Huntingdon	1/7	1/2¾	Saffron Walden	1/6½	1/2½	Wycombe	1/8½	1/4
Chorley	1/9½	1/4¾	Ilfracombe	1/7½	1/3¼	Salisbury City	1/7	1/2¾	Wymondham	1/6½	1/2½
Cirencester	1/7	1/2¾	Ingatestone	1/8	1/3½	Salisbury Plain	1/8½	1/4	Yeovil	1/8	1/3½
Clacton	1/7½	1/3¼	Ipswich	1/9	1/4¼	Sawbridgeworth	1/8	1/3½	York	1/9½	1/4¾
Cleveleys	1/9½	1/4¾									

* Painters 1d. less than other Craftsmen. † Plus 2d. per working day. ‡ Plasterers 1/11½

¶ Tradesman's Labourers, 1/5½. Navvies and General Labourers 1/4¾.

§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money

For Building Trade Wages in Scotland, see page 586

PRICES CURRENT OF MATERIALS *

Note: Owing to the exceptional circumstances which prevail at the present time prices of materials should be confirmed by inquiry. The prices for soft woods are for cash on delivery, and are subject to adjustment when the increased price of £22 per standard for national released stocks is finally fixed.

At present linseed oil and genuine spirits of turpentine can only be supplied in cans in small quantities.

BRICKS, &c.

Delivered to site, City and Central Area, Full Lorry Loads. £ s. d.
Best Stocks 4 18 0
Second Hard Stocks 4 11 0

Per 1,000. Delivered at London Goods Stations.

2½ in. Phorpres. A discount of 6d. 1,000 only monthly account.	King's Cross Station per 1,000. s. d.	To sites in W.C. District. per 1,000 s. d.
Pressed	52 3	58 3
Keyed	54 3	60 3
Single Bullnose	72 3	78 3
Rustics	72 3	78 3
Whites	72 3	78 3

White Midhurst Facing Bricks (delivered London site) ..... £ s. d. 3 12 6
Best blue Pressed Staffs. (London Stns.) ... 8 18 0
Do. Bullnose (London Stns.) 9 8 0
Blue Wire Cuts (London Stns.) 7 15 0
Best Stourbridge Fire Brick (London Stns.):—
2½ in. ..... 8 0 0 3 in. 9 15 0
GLAZED BRICKS. (London Stns.)
Best White Ivory and Salt Glazed Stretcher. 26 0 0
Headers 25 10 0
Quoins, Bullnose and 4½in. Flats 32 10 0
D'ble Str'tch'rs .. 34 10 0
D'ble Headers .. 31 10 0
One side & two ends 35 10 0
Two sides & one end 36 10 0
Splays and Squints 34 0 0
Second Quality, £2 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze. £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

"PHORPRES" HOLLOW PARTITION BLOCKS.

2" per yd. sup. ..	2 3	3" per yd. sup. ..	2 9
2½" " " ..	2 6	4" " " ..	3 1

CLINKER CONCRETE.

2" per yd. sup. ..	1 6	3" per yd. sup. ..	2 0
2½" " " ..	1 8	4" " " ..	2 4

CRANHAM TERRA COTTA.

2" per yd. sup. ..	3 0	3" per yd. sup. ..	3 8
2½" " " ..	3 6	4" " " ..	4 7

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 6	12" x 9" x 3"	3 0
12" x 9" x 2½"	2 9	12" x 9" x 4"	3 9

Per yard super d/d. Free on site, London.

SAND.

Thames Ballast. ...	7 9	per yd.
Pit Ballast	7 3	" "
Pit Sand.	9 9	" "
Washed Sand	10 9	" "
¼ in. Shingle	8 0	" "
¾in. Broken Brick	12 0	" "
Pan Breeze	8 3	" "

delivered 2 miles radius Paddington.

CEMENT.

Best British Portland Cement. Standard Specification delivered London Area. £ s. d.
4 ton loads and upwards site ..... Per ton 2 4 6
1 ton to 4 tons site 2 7 6
Alongside Vauxhall in 80 ton lots 2 2 0
"Ferrocrete" Rapid Hardening Cement—
4 ton loads and upwards site 2 10 6
1 ton to 4 tons site 2 13 6
Alongside Vauxhall in 80 ton lots 2 8 0
Stored in Reserved Bins at works. 1/6 per ton extra.
"Aquacrete" Water Repellent, "Blue Circle" cement, 30/- per ton extra or ordinary "Blue Circle" prices.
"Colorcrete" Nos. 1 and 2. Coloured Rapid Hardening Portland Cement 3 14 6
"Colorcrete" not rapid hardening, according to colour, from £7 to £15 10s. per ton.
"Snowcrete" White Portland Cement. 9 5 0
Super Cement (Waterproof). 3 14 6
NOTE.—Paper bags will be charged at the rate of 5/- nett per ton. Jute sacks charged 1s. 9d. nett each and 1/6 nett each allowed if returned to works within two weeks, in good condition.
Carriage will be paid by makers on returned empty jute sacks.
Roman Cement £7 5 Keene's Cement, White £6 10 0
Parian Cement 6 10 " " Pink 6 5 0
Cementone Colours for cement according to tints per cwt. from £2 16s. 0d.

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	3 12 6	Sirapite, Coarse	4 3 0
" White ..	4 0 0	" Finish ..	4 11 0
Pioneer	4 3 0		

Above prices for 4-ton loads and over London Area.

Best Ground Blue Lias Lime	2 17 6	Grey Stone Lime Chalk Lime	2 12 6 / 2 12 6
Granite Chippings	1 10 0	Hair per cwt. ..	2 7 6

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d., if returned in good condition within three months, carriage paid.
Stourbridge Fireclay in sacks 37s. per ton at rly. dep.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube ..... s. d. 2 11½
BEER STONE—RANDOM BLOCK—
Free on rail at Seaton Station. per ft. cube 2 3
Delivered free on rail Nine Elms, S.R. " 3 1½
Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.

PORTLAND STONE—
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube ..... s. d. 4 6
Do. do. delivered on road waggons as above stations, per ft. cube 4 6
White basebed 3d. per ft. cube extra.
NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ½d. beyond 30 ft.
HOPTON-WOOD STONE—
F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over P.ft.cb. 14 0
Sawn two sides 22 6
HOPTON-WOOD STONE—
Sawn three or four sides 27 0
YORK STONE, BLUE—*Robin Hood Quality.*
Delivered at any Goods Station, London.
6 in. sawn two sides landings to sizes (under 30 ft. super) ..... per ft.super 5 6
6 in. rubbed two sides, ditto .... " 6 3
3 in. sawn two sides slabs (random sizes) ..... " 2 7
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) ..... " 1 8½
1½ in. to 2 in., ditto ..... " 1 4½
HARD YORK—
Delivered at any Goods Station, London.
Scrappled random blocks. ..... per ft. cube 6 10
6 in. sawn two sides landings to sizes (under 40 ft. super) ..... per ft.super 5 7½
6 in. rubbed two sides, ditto .... " 6 9
4 in. sawn two sides slabs (random sizes) ..... " 3 5
3 in. ditto ditto ..... " 2 8
2 in. self-faced random flags ..... Per yd. super 8 9

CAST STONE.

Delivered in London are in full van loads, per ft. cube: Plain, 7s. 6d. Moulded, 8s. 6d. Sills, 10s. 0d.

HARD WOOD.

1 INCH AND UP THICK.

	£ s. d.
Average price for prime quality.	
Dry Austrian Wainscot, per ft. cube	0 17 0
Dry American and/or Japanese Figured Oak, per ft. cube ..... 10 6 to	0 13 0
Dry American and/or Japanese plain Oak, per ft. cube	0 11 6
Dry sq. edged Honduras Mahogany, per ft. cube.	0 15 0
Dry log-cut Honduras Mahogany, per ft. cube. ..... 12 6 to	0 16 0
Dry Cuba Mahogany, per ft. cube	0 18 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 6
Dry Australian Walnut, per ft. cube	0 19 0
Dry Queensland Silky Oak, per ft. cube	0 12 6
Dry African Mahogany, per ft. cube	0 10 0
Dry African Whitewood, per ft. cube	0 8 0
Dry English Wainscot Oak, per ft. cube	0 16 0
Best Scotch Glue, per cwt.	3 0 0
Liquid Glue, per cwt. ..... 4 7 0 to	5 10 0

SOFT WOOD.

MERCHANTABLE BRITISH COLUMBIAN PINE.

	Minimum. £ s. d.	Maximum. £ s. d.
Scantlings in imported sizes, 2in. by 3in. to 4in. by 11in.	43 10 0	53 0 0

Having secured the Contract— What about the Steel Scaffolding?

TUBULAR

—S & C—

SCAFFOLDING

For the lowest Prices apply to the Oldest Firm in The Scaffolding Trade.

STEPHENS & CARTER LTD.

The British Steel Scaffolding Co.

731-761, HARROW RD., N.W.10.

Telephone No. Ladbroke 1191 (6 lines).

PLANED BOARDS.

PRIME CLEAR BRITISH COLUMBIAN PINE.

	Per standard. £ s. d.
1in. by 11in. } 1in. by 9in. }	67 10 0
	Per square. s. d.
1in. plain edge flooring	53 0
1¼in. ditto	66 6
1in. tongued and grooved	53 0
1¼in. ditto	66 6

MATCHING.

	Per square. s. d.
⅝in.	37 6
¾in.	42 0
1in.	55 0

SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	34 17 6	18 by 10	19 5 0
22 by 12	29 0 0	18 by 9	17 15 0
22 by 11	26 15 0	16 by 10	16 17 6
20 by 12	26 2 6	16 by 8	13 10 0
20 by 10	24 0 0		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. ..... Per 1,000 f.o.r. London

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district.	£4 10 0
Ditto hand-made ditto	5 7 6
Ornamental ditto	5 12 6
Hip and valley tiles (per dozen) { Hand-made	0 9 0
{ Machine-made.	0 8 6

METALS.

JOISTS, GIRDERS, &C., TO LONDON STATION PER TON—

	£ s. d.
R.S. Joists, cut and fitted	£22 10 0
Plain Compound Girders.	25 0 0
" " Stanchions	27 10 0
In Roof Work	32 10 0

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.
MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	22 5 0	⅛ in. to ½ in. ..	20 15 0
⅝ in.	21 5 0	⅝ in. to 2¼ in. ..	20 5 0

WROUGHT TUBES AND FITTINGS.
Deliveries from works.
Deliveries from London stock further 2½% gross.

	Tubes. ½"/6" %	Tubulars. ½"/6" %	Fittings. 10/17 and 19/24 %	Flanges. ½"/2" %	Flanges. 2½"/6" %
Light weight ..	55½	—	48	51½	58
Heavy weight ..	48½	48½	40½	41½	50½
Galv.lightweight	44½	—	39½	40½	49½
Galv.heavyweight	35½	35½	31½	30½	41½

Tubes and tubulars sizes ½"/⅛" inclusive, charged extra of 5% less gross.
Fittings. Figs. 25/34 5% less gross discount.
Terms.—Nett cash end of month following date of invoice. Carriage paid on lots of £10 nett value and over.

C.I. HALF-ROUND GUTTERS—London Prices ex Works. per yd. in 6 ft. lengths.

	Gutters.	Nozzles.	Stop ends.
3 in.	1/4½	1/1	4d.
3½ in.	1/5½	1/2½	4d.
4 in.	1/5½	1/4½	6½d.
4½ in.	1/6½	1/8	7½d.
5 in.	1/10½	1/11½	8d.

O.G. GUTTERS.

3 in.	1/9	1/5½	4½d.
3½ in.	1/11½	1/5½	6d.
4 in.	1/11½	1/6½	7d.
4½ in.	2/0½	1/9½	8d.
5 in.	2/6	2/0½	9½d.

RAIN WATER PIPES.

Per yd. in 6 fts.	Pipe.	Bends, Stock angles.	Branches.
2 in.	2/0½	1/4½	2/0
2½ in.	2/1½	1/6½	2/4½
3 in.	2/7½	1/11½	2/10½
3½ in.	3/1	2/3½	3/4½
4 in.	3/6½	2/9½	4/0½

NETT PRICES.
Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.
L.C.C. COATED SOIL PIPES.—London Prices, ex Stock.

Per yd. in 6 fts.	Pipe.	Bends.	Branches.
2 in.	3/4½	2/4½	2/10½
2½ in.	4/0½	2/7½	3/7½
3 in.	4/4½	2/10½	4/3½
3½ in.	4/5½	3/7½	5/0½
4 in.	4/10	4/0½	5/9½

L.C.C. COATED DRAIN PIPE.

	Pipe.	Bends.	Branches.
3 in. per yd. in 9 fts.	5/5	6/3	9 11
cwt. qr. lbs.			
4 in. 1 1 20.	7/11	7/1	12/6
5 in. 1 2 22.	9/7	12/9	19/3
6 in. 2 0 6	11/5	14/8	25/6

Gaskin 65/- per cwt.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—(contd).

	Per ton basis in London. £ s. d.				£ s. d.
IRON.—Staffordshire Crown, Merchant quality	17	2	6	to	18 7 6
IRON.—Staffordshire Marked Bars	20	0	0	to	22 0 0
Mild Steel Bars	19	12	0	to	21 2 0
Mild Steel Hoops	21	6	0	to	21 16 0
	Ex Merchant's Stock, per ton (two-ton lots).				
Soft Steel Sheets, C.R. and C.A.—					
20 gauge	24	17	6	to	27 5 0
24 gauge	25	2	6	to	27 0 0
26 gauge	25	17	6	to	27 15 0
Galvanised Corrugated Sheets, 6 ft. to 9 ft.—					
20 gauge	27	1	3	to	28 6 3
24 gauge	27	11	3	to	28 16 3
26 gauge	28	16	3	to	30 11 3
Galvanised Flat Sheets, C.R. and C.A.—					
20 gauge	28	11	3	to	30 8 9
24 gauge	29	1	3	to	30 18 9
26 gauge	30	6	3	to	32 3 9
	Per ton. £ s. d.				£ s. d.
Cut Nails, 3 in. and up	26	0	0	to	27 10 0

ALL NETT.

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

Seamless copper tubes (basis)	per lb.	1/3
Strong sheet	,,	1/6
Thin sheet	,,	1/7
Copper nails	,,	1/6
,, wire	,,	1/6

PLUMBERS' BRASS WORK.

Delivered in London.
Stamped by Met. Water Board.

CRUTCH HEAD S.D. BIB COCKS FOR IRON. EASY CLEAN.

½ in.	¾ in.
34/-	53/- per doz.

CHROMIUM PLATED TOILET S.D. BIB COCKS FOR IRON. EASY CLEAN.

½ in.	¾ in.
50/-	68/- per doz.

S.D. STOP COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
37/6	53/-	87/-	202/-	288/-	460/- per doz.

S.D.S. COCKS WITH TWO UNIONS FOR LEAD.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
47/-	75/6	120/-	226/-	360/-	588/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
8/10	9/9	15/9	27/3	44/-	63/6 per doz.

HEAVY CROYDON BALL VALVES. SCREW IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
45/-	73/-	120/-	204/-	260/- per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
10/6	12/9	19/3	34/-	48/-	53/- per doz.

BRASS SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.
9/9	12/6	22/6	33/-	42/- per doz.

DRAWN LEAD TRAPS WITH BRASS CLEANING SCREWS.

	1¼ in.	1½ in.	2 in.	3 in.
8 lb. Lead P...	29/-	38/-	54/-	93/- per doz.
8 lb. Lead S...	36/-	42/-	67/-	120/- ,,

SOLDER.—Plumbers, 1/5. Tinmen's, 1/8. Blow pipe, 1/10 per lb.

PAINTS, &c.

	£ s. d.
Raw Linseed Oil, in drums ..... per gallon	0 5 4
Boiled ,, ,, in drums..... ,,	0 5 7
Turpentine, in drums (10 gals.) .... ,,	0 5 3
Genuine Ground English White Lead, per ton (In not less than 5-cwt. casks).	61 0 0
Extra for 1-cwt. kegs over 5-cwt. casks is 2/9 cwt.	
GENUINE WHITE LEAD PAINT "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J" Brand, and other best brands (in 14 lb. tins) not less than 5-cwt. lots per ton delivered	£ s. d. 83 10 0
Red Lead. Dry (packages extra) .. per ton	52 0 0
Best Linseed Oil Putty (1 ton lots) per cwt.	0 17 1½
Size. XD quality ..... ,,	0 3 6

Turpentine substitute can be obtained and prices vary according to the quality from 2/9 gallon upwards.

VARNISHES, &c.

		Per gallon.
Oak Varnish	Outside	0 14 0
Fine do.	,,	0 16 0
Fine Copal	,,	0 18 0
Pale Copal	,,	1 0 0
Pale Opal Carriage	,,	1 4 0
Best do.	,,	1 12 0
Floor Varnish	Inside	0 13 0
Fine Pale Paper	,,	0 18 0
Fine Copal Cabinet	,,	1 2 0
Fine Copal Flatting	,,	1 0 0
Hard Drying Oak	,,	0 18 0
Fine Hard Drying Oak	,,	0 19 6
Fine Copal Varnish	,,	1 0 6
Pale do.	,,	1 12 0
Best do.	,,	1 2 6
Best Japan Gold Size		1 12 6
Best Black Japan		0 10 0
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black		0 7 6
Berlin Black		0 14 0
Knotting (patent)		0 15 0
French and Brush Polish		0 12 0
Liquid Dryers in Terebene		0 9 0
Cuirass Black Enamel		0 7 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY (O.Q.) AND SELECTED GLAZING QUALITY (S.Q.).

PER FOOT SUPER.

In sizes not exceeding 80 in. long or 48 in. wide or 110 united inches.

	O.Q.	S.Q.
18 oz. in 300 ft. cases	2½d.	2⅝d.
24 oz. ,, 200 ft. ,,	3½d.	4d.
26 oz. ,, 200 ft. ,,	3⅝d.	4¼d.
32 oz. ,, 200 ft. ,,	5⅛d.	6⅛d.
24 oz. ,, 300 ft. ,,	3⅝d.	3⅝d.
26 oz. ,, 300 ft. ,,	3⅝d.	4⅛d.
32 oz. ,, 300 ft. ,,	5¼d.	6¼d.
18 oz. Obscured Sheet		5⅛d.
24 oz. Obscured Sheet		6¼d.
Fluted, 21 oz.		9d.
Enamelled, 18 oz.		5¼d.
,, 24 oz.		6⅜d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES. Per ft.

Rolled plate, ¼ in.	5½d.
Rough cast double rolled, ⅜ in.	6⅜d.
Rough cast double rolled, ½ in.	6⅝d.
Figured rolled, and Cathedral, white	6⅜d.
Figured rolled and Cathedral, tinted	9½d.
Rolled Sheet	6d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	0 10½

Rolled plate is the same price as rough cast double rolled.

	Per ft. s. d.
Wire Rolled, ¼ in. thick	0 9½
Wired Cast, ¼ in. thick	0 9½
Georgian Wired Cast	0 10
"Calorex" Sheet, 21 oz.	2 6
,, ,, 32 oz.	4 0
,, Cast, ¼ in. thick	0 10
,, ,, ⅜ in. thick	1 0
,, ,, ½ in. thick	1 2
Non Actinic Glass, ¼ in. thick	0 9½
,, ,, ⅜ in. thick	1 0
,, ,, ½ in. thick	1 2

"VITA" GLASS.

	Per ft. s. d.
"Vita" Plate Glass, about 5/32" thick.	
To 7 ft. super	5 0
Over 7 ft. super	7 6
"Vita" Sheet Glass, about 18/20 oz.	2 0
Cathedral "Vita" Glass:	
¼" thickness	2 0
5/16" ,,	3 0
3/16" Georgian Wired "Vita" Glass	3 6

LEAD, &c.

	Per ton. £ s. d.
(Delivered in London.)	
LEAD.—Sheet, English, 4 lb. and up	34 10 0
Pipe in coils	34 0 0
Soil pipe	39 10 0
Compo pipe	41 5 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills ..... per ton £18 0 0.

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from October 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A¹	A²	A³	B	B¹
Craftsmen	1/10	1/9½	1/9	1/8½	1/8	1/7½
Labourers	1/4½	1/4¼	1/3¾	1/3½	1/3	1/2¾

Aberdeen	A	Dumfriesshire	A²	Inverness	*	Perthshire	A²
Ayrshire	A	Dundee	A	Inverurie	A¹	Peterhead	A¹
Banff	B	Dunoon	A	Kincardineshire	A²	Renfrewshire	A
Berwickshire	A²	East Fife	A	Kinross-shire	A	Rothesay	A
Bridge of Allan	A	East Lothian	A	Lanarkshire	A	Roxburghshire	A²
Broughty Ferry	A	Edinburgh	A	Midlothian	A	St. Andrews	A
Clackmannanshire	A	Fifeshire	A	Monifieth	A	Selkirkshire	A²
Doune	A	Forfarshire	A²	Moray and Nairn	B	Stewartry	A²
Dunblane	A	Glasgow	A	Newport	A	Stirlingshire	A
Dumbartonshire	A	Greenock	A	Peebleshire	A²	Stornoway	A²
Dumfries	A¹	Hamilton	A	Perth	A	Tayport	A
						West Lothian	A

* This town has its own rates: Masons, 1/8; Carpenters, 1/8; Slaters, 1/8; Plumbers, 1/8½; Plasterers, 1/9 but 1/9½ is paid owing to the scarcity at present; Painters, 1/8 and Labourers, 1/3½.

The information given in this table is copyright. Rates of wages in England and Wales are given on page 584.

THE SCOTTISH BUILDER

NEW BUILDINGS

EDINBURGH. — BUILDING.—The Dean of Guild Court has granted the following: Robert Coll and Son, Ltd., extension of garage and workshop; William Arnott M'Leod and Co., Ltd., alterations at workshops; Morrison and Gibb, Ltd., alterations at printing works; Young's Express Deliveries, Ltd., additions at Leith; and William Robertson and Sons, alterations and additions.

GLASGOW. — BUILDING.—The Dean of Guild Court has approved of the following plans: alterations and additions to factory premises, architects, J. M. Monro and Sons, 307, West George Street; Sunderland and Sons, store building, Cowiesons, Ltd., builders, Charles-street; Trades House of Glasgow, 105, George-street, alterations to premises, architects, F. Burnet and Boston, 180, Hope-street. Plans prepared by Messrs. T. Stewart, 24, Langside-road, for garage, stores, etc., for J. Andrew Hailstones, Ltd. Plans prepared by Messrs. James Davidson and Sons, architects and quantity surveyors, 9, Bank-street, Coatbridge, for additions at the works of Messrs. John Allan and Co. (Glenpark), Ltd.

RUTHERGLEN.—GARAGE, ETC.—Plans prepared for new garage, workshops and offices at Donningbrae-road. Mr. Robert Fish, 239, Aros-drive, Mosspark, Glasgow, is the architect.

STIRLING.—GARAGE.—Plans prepared for new motor 'bus garage, workshops and offices. Plans by Mr. A. E. Scroggie, architect, Brown-street, Falkirk.

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Boulton & Paul Ltd
London: Horseferry House, S.W.1 Norwich

NEW BUILDINGS IN LONDON

MALDEN AND COOMBE.—FIRE STATION.—The Borough Engineer is to prepare plans for a new fire station.

TWICKENHAM. — BUILDING. — Plans passed by T.C.: Messrs. Brewer, Smith and Brewer, architects for reconstruction of factory; J. Jeffreys and Co., Ltd., completion of workshop premises, Teddington.

WAR DAMAGE

EMERGENCY REPAIRS AND SUPPLIES OF MATERIALS.

THE Secretary, Ministry of Health, has issued a circular on this subject to Housing Authorities, from which we take the following extracts :—

I am directed by the Minister of Health to refer to the last paragraph of Circular 2144 of September 12, 1940, in which Local Authorities were invited to assist in obtaining materials required for emergency repairs of buildings, and to state that in the light of experience since gained it is thought desirable to recapitulate and to amplify these arrangements :—

(1) Firms engaged to an important degree on war production work may apply to the Chairman of the Local Reconstruction Panel for their district for such assistance, and no action on the part of Local Authorities is called for, save to refer applicants in any such cases to the Chairman of the appropriate Panel; a list of these was forwarded to the Local Authority with Mem. IIA 31, dated October 2, 1940.

(2) In respect of all other undertakings (other than buildings belonging to Government Departments), including, *e.g.*, factories, commercial and private buildings, hospitals, buildings and works of water supply and sewerage and works and buildings for which the Local Authority themselves are responsible, materials for emergency repairs will be released on the recommendation of the officer of the Local Authority who is in charge of the organisation for the first-aid repair of houses.

(3) Where the materials necessary for the purpose are held by firms holding the Government's emergency reserve, the arrangements indicated in Memo. IIA 31 and enclosure thereto will apply.

(4) In the case of *timber*, the Area Officer of the Timber Control will arrange for issue of the necessary licence forthwith. In the case of *cement*, suppliers will at once release the necessary cement. In the case of *building boards*, these will be released by distributing merchants under arrangements made by the Paper Control, whereby hardboards will be available for roof repairs, and laminated and insulation boards for other necessary repairs, when suitable.

(5) By arrangement with the Iron and Steel Control, *steel* will be made available under the A.R. symbol to be issued by the officer of the Local Authority above referred to. Copies of Form M for this purpose are enclosed, and further supplies may be obtained, as required, from the Priority Officer, Ministry of Health, Whitehall, London, S.W.1 (R.A.). No records need be kept, but a duplicate of each authorisation issued should be transmitted at the time of issue to the Iron and Steel Control, Ashhorne Hill, near Leamington Spa, Warwickshire. The form is designed for use in the case of private buildings, but it may be adapted for works and buildings belonging to the Local Authority.

(6) It is not expected that the officer of the Local Authority should check the demands for these materials in detail, but in view of the urgent need for conserving supplies he should satisfy himself that the amounts authorised are reasonable and that substitutes are not feasible. It should also be clearly understood that the above arrangements are limited to materials required for emergency repairs only and are not applicable in the case of permanent repairs.

APPENDIX.

Damaged Windows.—Broken glass should be replaced only where there is little likelihood of further damage. Where only a few panes in a window are broken the simplest plan is to replace with any readily obtainable opaque material such as cardboard, linoleum, or plaster board. Where the window is of wood, fixing presents no difficulty, and where it is of steel the panel can be held in position by screwing at one or two points to a wood lath laid across the inside of the casement. Stiff materials can be puttied in. The panel should be painted on the external surface and exposed edges to protect the material from the weather. Where damage to the glass is more extensive there will not be time to replace individual panes and an overall treatment will be appropriate. In arranging this, provision should be made for the ventilation of all habitable rooms. A reasonable amount of daylight is clearly desirable, and this can be obtained by covering part of the window with translucent material—say to the extent of a half to two-thirds in living-rooms and kitchens, and a third to a half in bedrooms. For the general lighting of the room the translucent material will be more effective in the upper part of the window than in the lower part.

Translucent Material.—There are a number of suitable doped fabrics on the market which are weather-resisting and which let through a fair amount of light, but where these are not readily available, butter-muslin or calico, sized and varnished after fixing, provide a useful alternative. To give adequate strength it is advisable to use two thicknesses of the butter-muslin.

Fixing.—Materials of this type are liable to be either destroyed or to be torn from their fixings by blast or by violent wind pressure, and the ideal fixing would appear to be one that is absolutely secure along the top and such as will give way along the sides and bottom before the material itself is ruptured. In practice, the proper degree of side and bottom fixing may be difficult to attain, but for the top fixing the best plan is to wrap the material round a wood lath. The lath can then be nailed to the sash if the sash is of wood, or, with a steel window, screwed through to a second lath laid across the inside of the casement. For the sides and bottom, fixing by a waterproof adhesive is probably the best method. Stretching of the fabric will be facilitated by wrapping it round a piece of tubing or broomstick and unrolling from the top downwards. Large unsupported panels are soon dislodged by wind, and where there are no sash-bars or astragals to which the fabric can be fixed, intermediate supports must be provided. Waterproof adhesives are now available, supplied in tubes with special nozzles for the rapid application of a band of adhesive of the required width.

Where the window itself is destroyed to such an extent that rapid repair is impossible, and where a new window cannot be obtained from stock, a light wooden frame to cover the opening should be provided. About a quarter to a third should be made to open—a top-hinged panel would be the simplest plan—and the opening portion should be at a height convenient for looking out of the window and yet not too low to give adequate ventilation.

Damaged Ceilings.—An item of urgent repair that may easily be overlooked is that to ceilings where the plaster key is broken but the plaster may not have fallen. Generally, the best plan in top floors will be to screw a sheet of stout cardboard to the ceiling joists with or without the removal of the damaged plaster. In other floors the damaged plaster should be removed and the laths left bare, or, preferably, covered with paper.

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TENDERS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Tuesday morning.

Tenders for A.R.P. work will be found unde r "A.R.P. Schemes."

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government departments.*

Berkhamsted.—Installation of electric lights and heating at five wardens' posts, for U.D.C. J. R. Hadfield, E. and S. : *Norman Clarke, Ltd., High-st., Berkhamsted.

Carlisle.—Y.M.C.A. building for Building Committee, Divisional Offices, 83, Bridge-st., Manchester. Hubert A. Thomas, A.R.I.B.A., architect, Prudential-bldgs., Dale-st., Liverpool : *H. and J. R. Bradshaw, Hill-la., Blackley, Manchester.

Glasgow.—Work for Corporation. Replacement of glazing at a power station : *Frederick Braby and Co., Ltd., Glasgow, £480 10s. Glass work and fixing sheets on roof : *Hellliwell and Co., Ltd., Glasgow, £593 10s. Pumping station, excavation, brick and mason work : *John Train and Co., Ltd., Glasgow, £930 3s. 5d.

Gloucester.—Works at school for T.C. : *Stock and Pitman (repairs and external and internal decorations at Central School), £319 8s. 9d.; *J. M. Daniels (installation of new drainage system and sewage disposal plant and new water service at Whaddon school), £374.

Haslingden.—Improvements to heating installation at Moorlands institution for Lancashire C.C. S. Wilkinson, F.R.I.B.A., County Architect, Preston : *C. Seward and Co., Ltd., West View, Preston, £115.

London.—Works for M.W.B. Provision of heating installation for primary filtration plant : *Donald Smith and Co., Ltd., £2,706; building to house chlorinating plant at pumping station : *Walker (Tooting), Ltd., £812 14s.; stripping and reslating roof, and repairing gutters and down-pipes, etc., at pumping station : *H. Nethercot and Co., Ltd., £304 5s.; improving and controlling the flow along channel of Enfield loop : *Direct Labour, £725; structure to house two "Fowler" generating units : *Burnand and Pickett, Ltd., £558 12s.; laying and repairing communication pipes, Kent areas : *H. L. Bentley and F. J. Martin; central area : *E. Cole; eastern areas : *Cadman and Randall, and Nixon and Clark; southern district : *J. Jones, and R. Parks and Son.

¶London (Air Ministry).—Contracts to the value of £500 or over placed for week ended Nov. 30 :—

Air filtration work, Benham and Sons, Ltd., London, and D. Smith and Co., Ltd., London.

General maintenance work, J. F. Booth and Son, Banbury, Kerridge (Cambridge), Ltd., Cambridge, F. B. Thackray and Co., Ltd., Huntingdon, and R. M. Thompson, Ltd., Leeds.

General maintenance and civil engineering work, W. E. Chivers and Sons, Ltd., Devizes.

Heating work, Matthew Hall and Co., Ltd., London.

Civil engineering and building work, Geo. Wimpey and Co., Ltd., London; Sir R. McAlpine and Sons, London, and Tarran Industries, Ltd., Hull.

Civil engineering work, M. J. Gleeson, Ltd., North Cheam, W. and C. French, Ltd., Buckhurst Hill, and J. Laing and Son, Ltd., London.

Building work, Y. J. Lovell and Son, Ltd., Gerrards Cross, and H. C. Janes, Ltd., Luton.

¶**London (War Dept.).**—Contracts placed for week ended Nov. 30 :—

Miscellaneous work (two contracts), McLaren and Co. (Bedford), Ltd., Glasshouse Bridge, Newcastle-on-Tyne, Browning, Denne and Co., Ltd., St. George's-pl., Canterbury, John Hughes (Contractors), Ltd., 12A, Holt-st., Wrexham, and Wm. F. Rees, Ltd., 39, Victoria-st., London, S.W.1.

Building work, Thomas Feather and Co., Ltd., 4, Grange-rd., Darlington, H. W. Moult, 68, Nottingham-rd., Stapleford, John Bisset and Sons, Ltd., Back Hilton-rd., Aberdeen, and G. Reid and Son, Catrine.

Constructional work, A. Bradbury and Son, 334, Cemetery-rd., Sheffield 11.

Hutting (erection), J. Bromley, 74, Watling-st., Church Stretton.

Hutments, Universal Housing Co., Ltd., Bury Works, Rickmansworth.

Manchester.—Works for T.C. Extensions to railway sidings : *R. White and Sons, Widnes ; plastering work at 'bus garage : *F. and J. Pilling Bros., Ltd., Manchester ; demolition of property bounded by Tib-st., Scholes-st., and Foundry-la. : *T. Maiden and Son, Ltd., Manchester ; repairs and alterations to lifts : *W. Wadsworth and Sons, Bolton.

Morpeth.—Water supply scheme at Longhirst, for R.D.C. : *R. Rutter, Washington Station, Washington.

Newcastle-on-Tyne.—Extension to factory : *I. A. Hodgson, Heaton, Newcastle.

Newcastle-on-Tyne.—Works for City Council. Roof protection at an emergency hospital : *R. Gallacher, Ltd., Blackhill, £1,061 ; improvements including new staircase at mental block at General Hospital : *H. Kindred, 145, West-rd., Newcastle-on-Tyne, £189 11s. ; alterations to Phœnix Mills, The Close ; *J. E. Gardner, Ltd., Gateshead, £1,832 ; further alterations to Phœnix Mills : *J. and W. Lowry, Corporation-st., Newcastle, £964 ; glazing at Grainger Market and Arcade : *Furniss and Co., Huddersfield, £210 ; electrical repairs to house ; *B. Berrie, Normanton-ter., Newcastle, £125.

Newcastle-under-Lyme.—9-in. storm water sewer at King's-av., Wolstanton, for T.C. A. Cotton, B.S. :—

T. Coates	£240 13 0
W. H. Wilson and Co., Ltd. ...	233 4 4
P. Prendergast, Ltd.	214 11 4
C. Henshall and Co., Ltd. ...	198 5 4
*Grossley Cayzer, Ltd.	186 3 4

Reigate.—Electric lighting installation at 20 elementary schools, for T.C. C. Rowbotham, architect :—

Reigate Electrical Co., Reigate	£249 12 1
T. S. Marriage & Co., Reigate	168 5 6
Holliday, Hall & Stinson, S.W.1	162 7 0
*Tamplin & Makovski, Ltd., Reigate	126 16 6

Runcorn.—Construction of Five Crosses sewer, Frodsham, for R.D.C. S. J. King, E. and S., Castle Park, Frodsham : *J. W. Flather, Ltd., Ellesmere Port.

Scotstoun.—Alterations and extensions at works. Campbell and Hystop, architects, 124, St. Vincent-st., Blythswood, Glasgow. Excavation, brick and mason : *John Banks and Co., Glasgow.

Sheffield.—Supply of steel pipes, for T.C. : *South Durham Steel and Iron Co., Ltd., Cargo Fleet Ironworks, Middlesbrough, £20,457 15s. 6d.

Southport. — Structural alterations to premises, for J. Hall and Co. Norman Jones and L. Rigby, F. and L.R.I.B.A., architects, Williams Deacon's Bank-buildings, Lord-st. : *J. G. Wilkinson, 12, Forest-rd., Southport.

Stoke-on-Trent.—Four cleansing depots, for T.C. : *Tideswell Bros., Shelton, £1,542 ; *W. Leake and Co., Hanley, £2,198 14s. 11d. ; *J. Dickinson, Burslem, £1,536 ; *P. Bailey and Co., Ltd., Hanford, £2,030.

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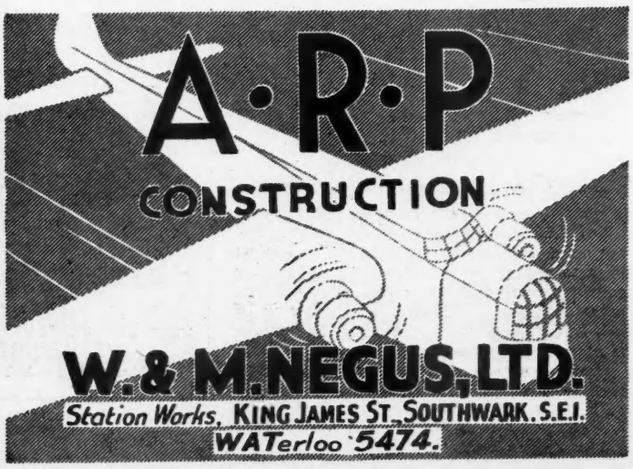

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